FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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Egg-Type Chick Production Again Shows Sharp Drop

WASHINGTON—A continued reaction to recent low egg prices was apparent in the U.S. Department of Agriculture's latest report on hatchery production of chicks.

Production of egg-type chicks during June was down 34% from a year earlier. This drop followed a marked decrease in May, and—while June is a less important hatching month than the earlier spring months—it was enough to put the January-June, 1959, hatch of egg-type chicks some 6% behind a year earlier.

(Also see outlook story on page 8.)

All regions showed decreases in June from a year ago, but the cuts were particularly large in some of the midwestern and eastern areas. Southern and western regions, which have been running well ahead of a year earlier through most of the 1959 hatching season, showed decreases in June, but the cutbacks were not so large. (See table for details.)

Meanwhile, USDA also noted that a smaller July hatch is in prospect. The number of eggs for egg-type chicks in incubators on July 1 was 24% less than a year earlier.

The number of egg-type chicks hatched during June totaled 26,590,000, compared with 40,376,000 in June, 1958. Production in the January-June period totaled 462,917,000 —down 6% from a year earlier.

The expected reduction in the hatch of broiler-type chicks also was

(Turn to CHICK OUTPUT, page 101)

Pennsylvania Co-op Begins Egg Plan

By Special Correspondent

HARRISBURG, PA.—The Pennsylvania Farm Bureau Cooperative Assn. has recently inaugurated a new "Layer Finance Contract Program."

Duncan Woodward, feed sales and service manager, said that the new program is designed for those poultrymen just getting started in business, or those who "do not have sufficient capital to get into the business on a profitable basis."

In the new program the Farm Bureau will supply birds, feed, medicines and inspection service, and marketing outlets. The producer supplies the equipment and management, and will receive a guaranteed rate per dozen of eggs plus incentive payments and protection. The basic contract will be for 15 months.

To become eligible for the new

(Turn to EGG PROGRAM, page 105

Southeast Feed Firms Turn to Beef Finishing

By FRED TUNKS
Feedstuffs Staff

SAVANNAH, GA.—Animal feeding interests of southeastern feed manufacturers are moving into finished beef production. This trend was noted at the Georgia Feed Assn. convention here July 13 at General Oglethorpe Hotel by a panel composed of a nutritionist, a feeder and a packer buyer.

C. G. Ellis

The Southeast which has become an exporter of feeder and replacement cattle for cattle-fattening areas to the north and west, is now developing its own feedlots—which is expected to result in increased slaughtering at home. Many of these new feedlots are owned by feed manufacturing firms.

The panelists were Dr. Marvin Wilkening, nutritionist for Alabama Flour Mills, Decatur, Ala., whose Red Hat feed division has a 2,000-head feedlot in Morgan County, Alabama; John Gilbreath, Collinsville (Ala.) Milling Co., which is feeding about 500 head at present, and Ben Denton, Armour Co., Atlanta, Ga.

Other talks during the convention program included discussions of the new Georgia Poultry Exchange at Gainesville, linear programming and its application to the feed industry, essential minerals in feeds and the past, present and future of the industry.

Officers Elected

C. G. Ellis, John W. Eshelman & Sons, Chamblee, formerly vice president, was elected president of the association, succeeding Charles N. Dannals, Jr., Atlanta Milling Co., Atlanta. C. K. Laurent, Marbut Milling Co., a director, was elected vice president. The association retained Will L. Kinard, Heard-Kinard-Smith, Inc., Atlanta, as secretary-treasurer.

New directors are: D. R. Clark, Alaga Feed Cooperative, Columbus; Roger W. Hampton, Ralston Purina Co., Gainesville; R. E. Barinowski, Feedright Milling Co., Augusta; Coy Skaggs, The Pillsbury Co., Gainesville, and J. D. Harrell, Valdosta (Ga.) Feed Mills.

Hold-over directors are: R. W. Cleveland, Gainesville (Ga.) Milling Co.; J. B. Crew, Ed E. Smith Co., Atlanta; J. O. Smith, Flint River Mills, Bainbridge; H. F. Birdsey, Birdsey Flour Mills, Macon; C. B. King, King Milling Co., Americus; J. F. Mosteller, Mosteller Flour & Feed Co., Chamblee; Willard Strain, Georgia Poultry Feed Mills, Dalton, and J. C. Thomas, Jr., Adel Milling Co., Adel.

Summaries of the panel discussion and talks follow.

(Turn to SOUTHEAST, page 105)

Cattle, Calves on Feed July 1 10% Greater than Year Earlier

WASHINGTON — The number of cattle and calves on feed in 13 leading feeding states on July 1 was up 10% from a year ago, the U.S. Department of Agriculture reported this week.

While the report showed a continuance of generally heavy feeding operations, it also indicated differences among areas. For example, the increase from a year ago was considerably larger in the western states than in the Corn Belt states, and within the Corn Belt, there were variations among states.

Cattle on Feed 21 States: The number of cattle and calves on feed July 1, 1959, in 21 major feeding states totaled 5,128,000 head. In these same 21 states, 5,891,000 head were on feed April 1, and 6,225,000 head were on feed Jan. 1.

13 States Increase 10%: In the 13 feeding states for which comparable data are available, 4,704,000 head were on feed July 1, 1959—10% above the 4,281,000 head on feed a year earlier and a record high July 1 total for the series which began in 1955. The April-July decline of 11% for the 13 states is in line with the decline of last year, but less than the seasonal drop shown for the three earlier years.

Numbers Up 7% in North Central States: Cattle and calves on feed in nine north central states at 3,464,000 head this July 1 compare with 3,252,000 head a year earlier—an increase

(Turn to CATTLE ON FEED, page 101)

CAPITAL COMMENT

Equitable Solution to Trade-FDA Drug Ruling Problems Expected

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—It is confidently expected that there will be remedial steps satisfactory to the government and at the same time providing relief for industry from some of the discriminatory aspects of the Food and Drug Administration policy regarding the Delaney amendment to the food additives law.

(Also see drug problem stories on pages 4 and 6.)

Certain restrictions on the drug and feed industry as a result of the policy on estrogens and arsenicals in feeds are continuing, but it is hoped that in the not too distant future mature and sober consideration between trade attorneys and scientific advisors can reach an equitable solution with FDA officials.

Meanwhile, the policy has been further outlined on possible changes in ingredients in feeds which may be affected by the FDA statement on the Delaney amendment.

As previously explained, if a feed manufacturer wanted to make formula or other changes in feeds which would bring his feeds and labeling under FDA review, he would not be permitted to make the changes if the feed included an arsenical or estrogen.

(Turn to DRUGS, page 105)

PASTURE CONDITIONS DECLINE

WASHINGTON — Pasture feed in the south Atlantic states, north Great Plains and the Southwest was dry and short on July 1, USDA pointed out in its latest crop report. Good pasture feed was generally available in other areas. In the north Atlantic region, pastures were below a year ago but above average. Further south, grass dried up due to adverse weather. Pasture condition declined 17% during June in the south Atlantic region. Pasture feed conditions for the western region as a whole showed little change during June. Short dry grass prevailed over California, Utah, Nevada, Arizona and part of Oregon, and pastures were poor to fair in the northern mountain states. In other states, conditions were good.

FEEDSTUFFS *Features This Week*

PRODUCTION: The weighing system of a large bulk operation is described on **page 18.**

NUTRITION: A university scientist discusses energy evaluation of feedstuffs on **page 26.**

CATTLE FEEDING: A vice president of a large cattle feeding operation discusses the future of cattle feeding on **page 46.**

EGG PROGRAM: A feed dealer describes an egg marketing program on **page 66.**

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Warning Signals

THE CATTLE INDUSTRY IS KEEPING a close watch on the current uptrend in beef production, with more than a little concern indicated that serious price troubles may be ahead unless some corrections are made. An excellent analysis of feed supplies to livestock numbers in cyclical marketing patterns by Prof. J. Carroll Bottum of Purdue University (Feedstuffs, July 11, page 94) describes the problem.

"If no changes are made in governmental programs, and if livestock cyclical patterns follow their normal course, livestock marketings during the 1960-62 period are likely to be so large that they will create a difficult price and income situation for producers," Prof. Bottum says. "Large storage holdings of feed plus large feed and livestock production during the period ahead appear likely. This, coupled with the likelihood that both the hog and cattle cycles will reach the liquidation phase during this period, and that both poultry and lamb supplies will be larger, makes it a period of serious concern to the livestock producers."

Per capita consumption of beef has been rising, reflecting higher consumer incomes, but there are limits, the economist points out. "It appears that even with high and increasing consumer incomes, the price structure to producers is endangered whenever the supply of red meats for consumption is much in excess of 160-165 lb. per capita," he says.

ADDITIONAL OBSERVATIONS on the cattle outlook are included in a current report of the American National Cattlemens Assn. prepared by Dr. Herrell DeGraff of Cornell University (page 74). The conclusion of this report is that another "bust" in the cattle industry like the one in 1953 is not inevitable, but there are questions as to whether a serious situation can be avoided. There is no assurance that enough producers will take the necessary steps to avoid a "bust." Present trends, says the committee, indicate a break is highly probable—in fact inevitable—if these trends are allowed to run too long. The report suggests that producers begin to cull cow herds this fall so that next year's calf crop could be checked and excessive expansion now under way slowed down.

Trends in the cattle industry, operating through cycles of longer duration than those in other types of animals, naturally have more momentum and are therefore less easily altered. However, the fact that the industry is examining the future outlook holds hopes that a serious debacle could be avoided.

More FDA Problems

THE FOOD ADDITIVES LAW and the Food and Drug Administration's administration of it are a subject of great consequence for feed manufacturers and the chemical industries, and also are of concern for practicing veterinarians, according to the Animal Health Institute. In a recent bulletin AHI describes the situation this way:

"Veterinary drug manufacturers are concerned that under the current setup a veterinary drug which is a food additive cannot get an effective new drug application unless it also gets clearance through a food additive order or vice versa. In case a product is turned down under either part of the law it is rejected under the other section automatically. All drugs used in animal feeds are food additives and veterinary drugs administered by any route are considered food additives if a residue may remain in milk, meat or eggs.

"The American Veterinary Medical Assn. concern is understood to stem from the fact that a veterinary drug must go through long animal studies required for food additive clearance even though they may be one-shot medications or used infrequently during the life of the animal. In these studies they are required to show a one-shot medication may be safely fed every day in large quantities to laboratory animals, in some cases over a two-year period. The veterinarians take the position that long feeding studies, which may be appropriate for a 'food additive' are inappropriate and unnecessary for a veterinary drug.

"The Animal Health Institute has expressed some fear that the tight new requirements under the food additives law will discourage development and marketing of new drugs and feed additives. It is understood some practicing veterinarians have informally expressed the opinion that they may be forced to prescribe human drugs for animals, which drugs can get clearance and effective NDA's without the lengthy testing required for a veterinary drug under the food additives law."

THESE REMARKS are another reminder that the current situation in regard to additives in feeds tends to discourage new developments which could lead to continuing important progress in feeding.

Also, it is apparent that the food additives law requires some additional scrutiny from the standpoint of practicing veterinarians as well as from the standpoint of its application to feeds containing products previously considered safe under the new drug provisions of the food and drug law. The possibility that veterinarians may have to circumvent the additives law by prescribing human drugs for animals in order to effect treatment in a manner they consider proper simply does not make much sense.

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

The week was just an "ordinary" one in the formula feed industry across the nation, with most regions reporting little, if any, change from the week before. Demand for commercial mixed feeds remained steady and ingredient price changes were on the inactive side, and what changes there were didn't seem to affect feed prices much. For the nation as a whole, hog feed remained the leader in volume. The index of wholesale feedstuff prices was 81.3 this week, just a fraction higher than the 81.0 index of the previous week. A year earlier the index was 88.4. The feed-grain index stood at 70.0, 1.6 points above the week before, but 2.6 points below the comparable week a year ago. The hog-corn ratio, based on Chicago prices, was stronger this week at 12.3, compared to 11.9 a week ago and 17.8 the corresponding week last year. (Ingredient prices in detail on pages 102-104.)

Northwest

The situation this week was little different from what it was a week earlier—no major fluctuations in demand or supply. Manufacturers' reports on business conditions remained mixed, but they all told the story that hog and turkey feeds were doing the industry in this region the most good.

The feed ingredient market was mixed, but slight price changes weren't expected to make much difference in feed prices.

On the whole, formula feed demand through the week was good. There were reports of some mills being unable to keep up with backlogged orders, but others were finding the summer slump hurting a bit.

Northwest millfeed production was off, and prices at Minneapolis strengthened. There were indications that mills in this region had averaged only about three days of operation.

The linseed meal market was slightly easier. Most dealers quoted prices 50¢ under a week ago.

Hail, rain and wind storms have damaged small grain crops, resulting in stronger prices for oats products.

Southwest

Formula feed sales ranged about normal over the Southwest.

Mills reportedly were running from five to seven days a week and backlogs were as far as three to four days ahead to about even. One dealer said few feed interests had a desire to book much in advance.

Prices for feed were expected to be up 50¢@$1.

Turkey, broiler and hog feeds were in the most demand. Steer demand was believed to be ahead of a year ago, a surprise according to one source.

During the summer, generally a slow feeding season, turkeys gave a lift to the trade as the birds grow older requiring larger amounts of feed.

Dairy and rabbit feeds were of secondary demand.

Weather had little direct effect on prices or demand. But because of favorable conditions the wheat harvest was generally complete. Farmers will have time once again to come to town for feed.

Central States

By and large, the situation insofar as demand for commercial mixed feeds does not seem to have been altered greatly from what it was the week previous. Mills appear to be operating largely on a five-day week basis and none of them seems to have any burdensome backlog of unfilled orders.

June apparently did not shape up quite as well as the same month last year in some quarters but the deficiency was not a serious one, or at least not enough to cause any particular concern.

During the past week, there was some moderate downward readjustment in prices of some of the feeds.

The government crop estimate that came out on corn July 10 was pretty much of a surprise to the rank and file of the mixed feed trade. While everyone was looking for a fair sized increase in the prospective crop over last year's record one, no one seemed to have anticipated that, in the aggregate, the July 1 prospect would call for a corn crop of substantially 4¼ billion bushels.

All of this naturally caused some pause in the feed trade as might have been expected, but since the release of the U.S. Department of Agriculture guess on the 10th of the month, there has been a rather marked change in the tenor of the weather comment from some of the important segments of the Corn Belt proper, which, in the final analysis, could mean that the initial official bushel estimate on corn this year may well be the high one for the season unless some very timely and ample rains are experienced. All of which, of course, cannot help but have impact on the commercial mixed feed industry.

Northeast

Sales were "just ordinary" as summer doldrums continued to hold sway in the formula feed industry and no improvement is likely next week.

(Turn to MARKETS, page 107)

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Say New Technique May Clear Up Stilbestrol Problem

DES MOINES, IOWA—"The zero tolerance technique (of the Food and Drug Administration) may prove to be a life-saver for the diethylstilbestrol in animal feeds," it was stated this week in a bulletin from the Animal Health Institute. "It appears that FDA might be able to establish a zero tolerance for this product."

Comments on the stilbestrol situation in relation to the Delaney amendment to the food additive law were part of a report pointing out that FDA has recently published the first food additive petitions for veterinary drugs setting a zero tolerance. As previously reported, these are for penicillin preparations used for mastitis.

Quoting an FDA official, the AHI noted that with these new penicillin products, information indicates that after a set period of time following administration of the drugs, their residues will no longer be found in meat or milk. Then FDA issues a final order establishing a zero tolerance for the drug. At the same time it issues antibiotic regulations or makes new drug applications effective which will authorize distribution of the drugs under labeling indicating that they may be used on food producing animals only when the milk produced within a certain period is withheld from distribution for food use and such treated animals are withheld from slaughter for a specified period. This period is that required to assure elimination of residues from meat or milk.

Commenting on the zero tolerance technique and its possible application to stilbestrol, the AHI bulletin noted that under the Delaney clause, no additive may be cleared if it is found to induce cancer in man or other animal. Stilbestrol is considered carcinogenic. Under FDA's interpretation of the Delaney clause, no new drug applications or supplemental NDA's can be made effective for stilbestrol. Eli Lilly & Co., it was pointed out, has challenged this interpretation.

"However," said the bulletin, "stilbestrol may be almost 'home free' if FDA can approve a zero tolerance for it. Under the NDA provisions, no residues were allowed in meat anyway.

"The future for stilbestrol in poultry, however, is questionable since FDA claims to have seen some evidence of residues after implantation of the hormone."

In connection with the report, it was pointed out that according to present FDA interpretation, all veterinary drugs that may leave a residue in food are food additives. (All feed medications, whether or not they leave residues, are said to be food additives.)

In instances where FDA believes little or no residue of a veterinary drug should be permitted in food, the zero or near zero tolerance food additive petition technique will be used.

Mill Destroyed

LEXINGTON, KY.—A $250,000 fire leveled the Woolcott Mills, Inc., mill here recently. Several tons of grain and feed were destroyed, along with various types of equipment. The mill employed 35 persons.

Suspicion of arson has prompted an investigation concerning the cause of the fire, according to Earl McDaniel, fire chief.

FEED FIRM SOLD

CANYONVILLE, ORE.—C. W. Rimell has announced the sale of Rimell Feed & Seed to Harry J. Brankey, Garden Grove, Cal. The new owner has operated Ridge Feed & Supply Co., Grass Valley, Cal., for the past nine years.

FDA Prepares Letter To 'Correct the Record'

WASHINGTON — The Food and Drug Administration recently prepared a letter to "correct the record" on the status of arsenicals and dienestrol diacetate under the Delaney amendment to the food additive law. The letter is sent to manufacturers whose applications for new drug applications and antibiotic regulations have been rejected.

Following is the text of the letter:

"Recently, we forwarded to you a copy of Sec. 3.37 of the regulations . . . under the Federal Food, Drug and Cosmetic Act pertaining to the status of certain drug components under the Food Additives Amendment. You were informed that in the light of that Section we would be unable to make effective your request for exemption from certification of certain medicated feeds since they contained diethylstilbestrol, dienestrol diacetate, or an arsenic-containing compound and since these substances were considered as carcinogens.

"Upon further consideration of the available scientific data, we find that it has not been demonstrated that all arsenic compounds or that dienestrol diacetate are carcinogenic, and we therefore are writing to correct the record. Diethylstilbestrol, however, has been found to produce cancer when fed.

"This still does not permit us to grant exemptions from certification of any medicated feed that contains any arsenic compound or dienestrol diacetate, because there remains a relevant, scientific question whether such substances may cause cancer. It is a known fact that certain inorganic arsenic compounds and certain synthetic materials with hormone-like activity similar to dienestrol diacetate have been found to produce cancer in man.

"Because of this, our scientific advisers cannot say that there are

(Turn to FDA, page 105)

Montana Flour Mills Buys Misco Feed Plant

MISSOULA, MONT.—Montana Flour Mills Co., Great Falls, has purchased the Misco Feed processing plant, Missoula, from Teslow Inc., Bozeman, according to Walter Teslow, president of Misco.

Purchase of this facility gives Montana Flour Mills two producing plants there. Montana Flour has been leasing the Misco mill for the past two years.

The plant is equipped to produce poultry and livestock feed. Its three pellet mills are needed, says C. G. McClave, president of Montana Flour, to supplement production of other feed plants.

Mr. Teslow says the sale will not remove Misco feeds from the area or affect the firm's grain handling operations there. He points out that Misco will produce feeds in plants in Ronan and Bozeman.

Named Comptroller of GMI Feed Division

MINNEAPOLIS—Donald J. Huckaby, former operations control manager of General Mills' feed division, has been named division comptroller, according to the unit's general manager, E. E. Woolley.

Mr. Huckaby succeeds B. F. Reinking, a 28-year veteran with the company, who will head the division's new operations improvement committee and serve as consultant on credits and allied matters.

The new comptroller joined General Mills at Oklahoma City in 1937, was transferred to Minneapolis in 1950, and began his work with the feed division in 1953. He received his appointment as operations control manager two years later.

Egg Output in June Continues Ahead Of 1958; July 1 Laying Flock Down

WASHINGTON—Egg production in June continued ahead of a year earlier but by a somewhat lesser extent than in May, according to the U.S. Department of Agriculture. The nation's laying flock during June averaged about the same as a year ago, but the rate of lay per bird was at a new high of 18.2 for the month and was 2% above June, 1958.

In connection with its report on egg production and layer numbers, USDA also called attention to the egg price climb the latter part of the month. At mid-June egg prices had been the lowest since 1941.

Farm flocks laid 5,132 million eggs during June—up 2% from a year earlier. Most regions showed increases.

Laying flocks during June averaged a total of 281,360,000 layers—about the same as last year.

As of July 1, the number of layers on farms was 276,210,000—representing a decrease of 1% from a year earlier. (See table for regional differences.)

Hens and Pullets of Laying Age on Farms, July 1

(000's omitted)

Year—	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
1948-57 (average)	46,988	54,440	76,964	28,292	46,206	31,186	284,076
1958	48,529	43,448	72,559	29,483	39,283	35,020	278,322
1959	46,047	52,225	70,531	31,937	39,993	35,477	276,210

W. D. Lewis

H. R. Halloran

H. R. Halloran Forms Laboratories Firm

MODESTO, CAL.—Hobart R. Halloran, feed consultant and owner of Halloran Research Farm, has announced the establishment of Agrisearch Laboratories. William D. Lewis was appointed manager.

The new laboratory performs analyses and research in feeds, foods and other products of agriculture, and provides quality control services for feed manufacturers and ingredient suppliers, according to Mr. Halloran. It is situated on the Halloran farm at Modesto.

Mr. Halloran explains that Agrisearch Laboratories is separate from both his research farm and feed consulting service, although it supplements the farm's biological testing facilities and analytical work in feeding trials.

Mr. Lewis, who holds a master's degree in organic analytical chemistry from the University of Wisconsin, was in charge of customer technical service for Chas. Pfizer & Co., Terre Haute, Ind., for the past four years. He was a research associate at the Wisconsin Alumni Research Foundation for eight years previous to his position with the Pfizer firm.

National Molasses Builds New Terminal

TOLEDO, OHIO—National Molasses Co., Oreland, Pa., has announced the completion of a new molasses terminal here. Molasses will be delivered to Toledo by ocean tanker via the St. Lawrence Seaway, a distance of nearly 4,000 miles from Cuba. The announcement said it will take molasses tankers about a month to make a round trip.

Company officials said the new terminal "will insure finer service to molasses users in Ohio, Indiana and Michigan." Before the new Toledo terminal was opened, the area was served from inland river terminals.

The first shipload of molasses was delivered to Toledo in June.

NEW GRAIN FIRM

JASPER, FLA.—The Hill-Browne Grain Co. is a new grain business organized here with Billy W. Hill and E. C. Browne, both of Jasper, as operators. The business will feature use of storage bins and a grain dryer rated at 400 bu. of corn per hour.

First N. C. Poultry Auction Set Aug. 3

LEXINGTON, N.C.—The first auction of the North Carolina Poultry Exchange, Inc., has been scheduled to be held here Aug. 3. The auction site is being established on a permanent basis with Bill Kerr, formerly with Bill's Farm Center, Troy, as manager.

Sales will be held Monday, Tuesday, Thursday and Friday each week at the old Bost Baking Co. building across from the Lexington airport.

Forty-three broiler firms—representing 40% of the state's entire production—have already signed to use the facilities. Leaders in the market's establishment said they expect eventually to have nearly all of the state's production flowing through the auction.

North Carolina Volume

North Carolina sold 134 million birds in 1958 and virtually all were processed within the state. Then 75% were exported. North Carolina State College figures show that only a few live birds are hauled into the state.

After a slump that continued from the winter through the spring and kept prices at around 14¢ lb., the birds recently brought 16@16½¢ lb. Expectations are for a penny or two more a pound this summer.

Auction market leaders are hopeful of establishing prices based on broiler quality. There is now little price distinction between grades of birds, they say. Their aim is to establish prices on grades prime, choice and good.

The market will employ checkers who will travel about the state inspecting birds to be auctioned. Their reports will be available to the buyers in Lexington the day of the auction and bids will be on the basis of these reports.

The broilers themselves will never leave home. A fee will be charged to cover the checking and auctioning costs, probably $1 a thousand birds.

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Work Continuing To Free Arsenicals From Restrictions

DES MOINES, IOWA—The Animal Health Institute is continuing its work to free organic arsenicals from the restrictions which have resulted from the Food and Drug Administration policy statement on the Delaney amendment and its application to feeds.

The AHI board will meet next week to continue its work, and four companies which supply six arsenicals to the feed industry are busy.

A recent AHI bulletin notes that FDA is asking for industry research and feels that qualified experts should be polled as to whether the organic arsenicals now in use in animal feeds are generally considered safe under conditions of intended use.

"There is some data to indicate that inorganic arsenicals may be connected with some cases of cancer," the bulletin said. "There is no data to link the organic arsenicals used in feed with cancer. However, FDA is asking detailed research findings, including data on whether the organic arsenicals can be converted to inorganic arsenicals in the body.

"Industry will prepare and send a questionnaire to a group of qualified experts, chosen by industry, asking whether they consider the organic arsenicals in current use 'generally recognized as safe under conditions of their intended use.' The latter question indicates that organic arsenicals could eventually be exempted from the food additive law.

"AHI has taken a position it is generally agreed that if organic arsenicals in present use are considered by qualified experts to be generally recognized as safe under conditions of intended use, they would then be exempt from the food additive amendment and any persons now holding effective new drug applications could use these arsenicals in feeds without hindrance. This would not, however, be the case with respect to new products or new claims for existing products.

"Meanwhile, the NDA's and supplemental NDA's will continue to be turned down because FDA feels 'safety' has not yet been clearly established. An NDA cannot be made effective for a food additive unless a food additive order is simultaneously published."

(Further explanation of the AHI position and its consultations with FDA was presented in Feedstuffs July 11.)

Swine Production Specialist to Speak

SAN FRANCISCO—The California Hay, Grain & Feed Dealers Assn. will be represented at the state-wide swine production meeting in Stockton, Cal., on July 30, by Tim D. Hoelee, Pacific Coast manager of the Ralston Purina Co. at Palo Alto, Cal.

Mr. Hoelee is in charge of the swine production program for Ralston Purina on the Pacific Coast. He has had a great deal of experience in the promotion of hog production in the southern states and in parts of the Midwest.

"He will cover a subject vital to the success of a greatly increased hog production plan," according to E. Floyd Forbes, president of the Western States Meat Packers Assn., "because the availability and proper type of feedstuffs for hogs will be one of the most important factors in determining whether or not this plan is economically feasible. Mr. Hoelee is experienced in all of the newest methods of producing hogs, including the so-called assembly-line production plan."

J. M. Bird

J. W. Elder, Jr.

Allied Mills District Sales Heads Named

CHICAGO—J. M. Bird and J. W. Elder, Jr., have been named district sales managers for the area served by the Ft. Worth plant of Allied Mills, Inc., according to E. D. Griffin, vice president in charge of sales.

Mr. Bird, who will be sales manager of the Long Horn district with headquarters in Ft. Worth, previously was sales manager of Universal Mills. He is a graduate of Texas A&M and did post graduate work at both A&M and Iowa State College where he majored in animal nutrition.

Mr. Bird became a territory salesman for Universal Mills in 1948 and later served as assistant to the sales manager and director of sales training prior to becoming sales manager.

J. W. Elder, Jr., who will be sales manager of the Gulf Coast district, with headquarters in Houston, previously was manager of the Houston branch of Universal Mills. He attended Ranger Junior College and Texas A&M. Both his grandfather and father worked for Universal Mills, and his father is now a territory salesman for Allied Mills.

Mr. Elder did sales work for Universal Mills in 1951 in Texas and Mississippi and became manager of the Houston branch in 1952.

46 New Members Join AFMA in First Month Of Membership Drive

CHICAGO, ILL.—Forty-six companies have identified themselves with the American Feed Manufacturers Assn. in the first 31 days of a new AFMA membership drive, according to W. E. Glennon, AFMA president.

He said the campaign, which was inaugurated June 1, is bringing the AFMA story to prospective members by direct mail, through printed materials and by personal letters and calls. The "get acquainted" program will continue for another two months.

Mr. Glennon says, "The current membership campaign is part of a concerted effort to familiarize the entire feed industry with the AFMA program. We are convinced many companies will affiliate with our association when they become better acquainted with the many AFMA programs in legislation, public relations, nutrition, market research, sales, traffic, feed control relations, purchasing and related areas."

He comments that most of the firms now joining are "active members," manufacturers of a branded feed. It is toward this group of companies the current membership drive is being directed, he explains. Several new members are "associate members," supplying services, ingredients or equipment. A separate campaign for associate membership will be launched by AFMA at a later date, according to Mr. Glennon.

The 46 new members include:

All-In-One Feeds, Inc., Portland, Mich.; Andrews Machine Co., Decatur, Ill.; Belgrade (Minn.) Flour Mills Co.; The Biochemical Corporation of America, Salem, Va.; Bioferm Corp., Wasco, Cal.; Brazos Valley Feed Co., Navasota, Texas; Broward Grain & Supply Co., Boynton Beach, Fla.; Buhl (Idaho) Feed & Ice Co., Inc.; Bunker's Feed Center, Orem, Utah; A. Carino & Sons, Williamstown, N.J.; and Challenege Feeds, Inc., Atlantic, Iowa.

(Turn to AFMA, page 105)

Staley Milling Leases Mill; Building Feedlot

OXFORD, KANSAS—Parity Mills, Inc., has leased its new custom formula feed manufacturing plant, grain storage and other Oxford facilities to the Staley Milling Co., Kansas City, a division of Spencer Kellogg & Sons, Inc., Buffalo, N.Y. Transfer of operations is planned for Aug. 1, according to Charles Tallman, Parity manager.

Built recently for the production of complete pelleted rations on a custom basis, the plant handles feed in bulk exclusively, serving directly the cattle feeders and other livestock producers in the area.

In connection with this operation, Staley is constructing a beef cattle feedlot with an initial capacity of 1,500 head, according to Mr. Tallman.

Owners of Parity Mills are H. O. Kleier and N. R. Nelson of Oxford.

The Oxford facility includes 750,000 bu. of grain storage, the modern feed mill and other warehouse, seed cleaning and merchandising facilities.

Officials indicated that the feed mill will be enlarged and that a "grain bank" program will be available.

Mr. Tallman will continue as manager of the Oxford plant.

Abbott Laboratories Explains Situation on Arsanilic Acid in Feed

CHICAGO—Pending further clarification of the Food and Drug Administration policy statement which relates to arsenicals, Abbott Laboratories this week sent a letter to feed manufacturers designed to "clear up some confusion that may have arisen on the status of arsanilic acid."

The comments related particularly to laying and swine feeds.

"With the sanction of the Food and Drug Administration," the letter said, "arsanilic acid has for years been exempt from the new drug regulations for use in poultry and swine feeds. Accordingly, it is not necessary to file a new drug application in order to add arsanilic acid to such a feed in appropriate concentrations where there is no other active drug contained in the feed. Where arsanilic acid is the only medication in the feed, the policy statement of FDA is entirely inapplicable. It makes no difference whether or not a company has previously been fortifying its feeds with arsanilic acid.

"The policy of FDA, as enunciated in its recent policy statement, applies to the consideration of the following: (1) New drug applications and supplements thereto. Additives which are exempt from the new drug regulations are not affected by this statement. (2) Proposed amendments to the antibiotic drug regulations. Additives which are exempt from certification under the antibiotic drug regulations are not affected by this statement.

"In addition, paragraph 146.26 (a) of the antibiotic drug regulations contains a blanket exemption from certification of arsanilic acid (not less than 0.005% and not more than 0.01%) used in combination with one or more of certain listed antibiotics (penicillin, streptomycin, dihydrostreptomycin, chlortetracycline, tetracycline, chloramphenicol, bacitracin, feed grade zinc bacitracin or bacitracin methylene disalicylate), with or without added suitable vitamin substances, if it is intended for use solely as an animal feeding supplement and it is conspicuously so labeled. This exemption is available to all companies. No approval of the FDA is required where no other medicaments are included in the feed."

The letter—sent by Robert W. Nichols, manager of Abbott's chemical marketing division—also repeated the firm's previous statements that it is confident that arsanilic acid is a safe ingredient in animal feeds.

Drug Policy for State Control Officials Suggested

LEXINGTON, KY.—It has been suggested that state feed control officials continue accepting new and revised registrations for feeds which contain estrogens and/or arsenicals.

Commenting on questions raised by the Food and Drug Administration policy statement on estrogens and arsenicals in feeds, the chairman of the medicated feed labeling committee of the Association of American Feed Control Officials said the consensus seems to be that state control officials continue as they have been doing in the past—that is, accepting new and revised registrations for feeds containing estrogens or arsenicals. At the same time it was noted that the portion of each state law having to do with poisonous or deleterious substances should be examined. The chairman of the committee is Dr. F. W. Quackenbush of Indiana.

Bruce Poundstone, Lexington, secretary of the Association of American Feed Control Officials, called attention to Dr. Quackenbush's statement in copy prepared for his column, "Feed Control Comment," to appear in the July 25 issue of Feedstuffs.

Following the FDA statement, Mr. Poundstone said, Dr. Quackenbush contacted members of the medicated feed committee as well as other feed officials. The chairman's statement was then released to control officials.

Mr. Poundstone said that if products formerly considered safe can now be so considered, there would seem to be no reason for a change in policy at the state level and feeds containing estrogens and arsenicals would continue to be accepted for registration so long as the levels and components of these ingredients are proper.

Dr. Quackenbush's statement pointed out in reviewing the situation that no additional new drug applications nor changes in present NDA's for feeds containing estrogens or arsenicals will be permitted to become effective.

"The question," Dr. Quackenbush said, "is whether state feed control officials should (while waiting for the issue to be settled) continue the policies they have been following or change their policies . . . From the views expressed to me by the committee members as well as by various other members of our association, the consensus seems to be that state feed control officials should continue as we have been doing in the past—that is, accepting new and revised regulations for feeds which contain estrogens and/or arsenicals. Needless to say, the feed industry is hopeful the states will adopt a uniform policy.

"Of course, each state official will need to examine his law carefully before adopting any policy. The Uniform Bill in Section 7 deems a feed to be adulterated '(a) if any poisonous, deleterious or non-nutritive ingredient has been added in sufficient amount to render it injurious to health when fed in accordance with directions for use on the label.

"I have not seen the cancer induction data on which FDA's latest restriction is based. However, I understand that cancers were induced in laboratory animals with drug levels considerably higher than those recommended in commercial feeds. The policy suggested above, therefore, would not seem to be inconsistent with the Uniform Bill."

Shows Marked Pickup

CHICAGO—Futures trade on the Chicago Board of Trade showed a marked pickup during the early part of this week, with volume for soybeans alone on July 14 at 39,801,000 bu., the largest one-day volume since Dec. 27, 1957.

Record Turkey Crop But Lighter Sales At End of Year

WASHINGTON—The 1959 turkey crop is likely to exceed slightly the record 81 million turkeys raised in 1957, the U.S. Department of Agriculture pointed out this week. Hatchings from September, 1958, to July were up about 7% from 1958.

An increased proportion of the crop will be Beltsvilles and large white turkeys, and fewer will be Bronze than in both 1957 and 1958.

USDA noted that the increases from last year in the turkey crop came in the hatches of May and earlier. This indicates larger slaughter in the late summer months than last year, much of which will move into storage until the holidays. Recent prices for hens and other light birds have been at a low level, which may be reflected in offering prices for such birds during the into-storage season. Last year, USDA bought 23 million pounds of frozen turkeys from August through September.

Price Factors

Turkey slaughter after October is likely to be below 1958 because of recent declines in the hatch and prospective hatch of poults. This, coupled with the facts that part of the increased turkey crop is already slaughtered and that storage stocks are below last year, is a plus factor in the turkey price outlook for the closing months of the year, USDA pointed out.

• • •

Hatch of Heavy White, Light Breed Poults Up

WASHINGTON—The U.S. Department of Agriculture reported this week that hatchery production of heavy white breed poults and light breed poults during June was up from a year earlier, while the hatch of other heavy breeds again was down.

While showing at least some increase, the light breed hatch in June was up only slightly after showing some sharp increases earlier in the season.

Heavy White: Heavy white poult production during June totaled 3,071,000—up 27% from June, 1958. For the January-June period, the hatch of heavy white breed poults was up 31% from 1958.

Other Heavy Breeds: Production of other heavy breed poults during June was 8,476,000—off 11% from a year earlier. For the January-June period, the hatch of other heavy breeds was down 6% from 1958.

Total Heavy Breeds: The total heavy breed hatch in June was 11,547,000, which represents a 3% decrease from a year earlier. For the January-June period, the total was about the same as last year—some 63 million birds.

Light Breeds: The light breed poult hatch in June was 2,146,000—which represents an increase of only 1% over a year earlier. However, for the January-June period, the hatch was up a sharp 30% and this increase accounts for the over-all gain in turkey poult hatchings this year.

All Breeds: The total hatch of all breeds in June was 13,693,000—down 3% from a year earlier. This represented the first monthly decline this year. For the January-June period, the hatch totaled 74,622,000—up 4% from 1958.

Eggs in Incubators: Turkey eggs in incubators on July 1 indicate that the number of heavy white breed poults in July will be larger than in July last year. The hatch of light breed poults and other heavy breed poults (mostly broad breasted bronze) will be smaller.

Edward Van Hoven A. T. Pennig, Jr.

New Officers Named By Van Hoven Co.

ST. PAUL—Edward Van Hoven was elected president and treasurer of the Van Hoven Co., St. Paul, at a recent board meeting. He is the fifth member of his family to head the company, succeeding his brother, the late Ralph Van Hoven, who was also president of the National Renderers Assn.

The board also elevated A. T. Pennig, Jr., from director of the firm's buying operation to vice president and secretary. He has been with the firm since 1945.

The rendering company, which since 1954 has been a manufacturer of animal fats and proteins for the feed industry, has offices in St. Paul and manufacturing plants in New Brighton, Minn., and South St. Paul.

California Pasture Remains Below Normal

SAN FRANCISCO — Range and pasture feed conditions continue well below normal in California, according to the California crop and livestock reporting service.

Little or no improvement can be expected until fall rains begin. Stock water supplies are declining, with prospect of water shortages in some areas later this season. Range fire hazard is a real threat, and some parts of the state have already suffered losses due to fire.

The reporting service said the condition of pasture and range feed on July 1 was 68% of normal. This was the lowest for this date since 1939, and compares with 67% a month earlier, 89% a year earlier and with the 10-year average of 81%.

Wilson Feed Operation In Chicago Continues

CHICAGO—J. Russell Ward, manager of the animal and poultry feed division of Wilson & Co., Chicago, pointed out this week that his firm is continuing a substantial manufacturing operation in Chicago and will continue to supply feed ingredients from its feed unit at 4200 S. Marshfield Ave.

Mr. Ward made the statement following recent publicity given the discontinuance of slaughtering operations in Chicago by major meat packers.

In connection with feed products, he mentioned Wilson's new and enlarged feed ingredient manufacturing unit. The plant, he said, produces tankage, meat and bone scraps, steamed bone meal and feeding fat.

Named to Star-Kist By-Products Post

TERMINAL ISLAND, CAL.—Cedric R. Bunten has joined the by-products division of Star-Kist Foods, Inc., Terminal Island, Cal., as assistant sales manager, according to an announcement by Walter Brewer, vice president of Star-Kist.

Mr. Bunten, formerly with the Borden Co., special products division, and Philip R. Park, Inc., will assist Mr. Brewer with sales and merchandising of Star-Kist fortified condensed fish solubles, fish meal and other company by-products.

Georgia Mill Leased By McMillen Company

ATHENS, GA. — McMillen Feed Mills, Inc., has leased the feed mill of Julius Bishop, Athens.

Russell Field, graduate of the University of Georgia, has been named production manager of the plant, and Harold Pfifer is office manager. Mr. Pfifer, who has been with McMillen for three years, came from Marion, Ohio.

Mr. Bishop says his firm will continue to grow broilers as in the past, operating under the name of Paradise Valley Poultry. Harold Lanier, formerly manager of the Farmers Mutual Exchange in Athens, has been named manager of the Paradise Valley Poultry's service program.

Frank T. Heffelfinger, Peavey Chairman, Dies

MINNEAPOLIS—Frank T. Heffelfinger, chairman of the board of F. H. Peavey & Co. and a prominent figure in the grain business for half a century, died at his home in Maplewoods, Lake Minnetonka, near Minneapolis July 11. Mr. Heffelfinger was 89 years old. His physicians said death came without warning, apparently of a heart attack.

Mr. Heffelfinger had been president of F. H. Peavey & Co. from 1907 to 1945 when he became chairman of the board. One of the largest grain firms in the world, the company was founded by his father-in-law in 1883.

In 1900 three junior partners were taken into the Peavey company, Mr. Heffelfinger, F. B. Wells and the founder's son, George W. Peavey. When F. H. Peavey died in 1901, the remaining partners were named administrators of his interests, remaining so until the company was incorporated in 1906.

Surviving Mr. Heffelfinger are three sons, F. Peavey Heffelfinger, Wayzata, Minn., Totton P. Heffelfinger, Excelsior, Minn., and George W. P. Heffelfinger, Mound, Minn.; a daughter, Mrs. H. Terry Morrison, Mound; a sister, Mrs. James F. Bell, Ferndale, Wayzata; 20 grandchildren and 39 great-grandchildren.

S. L. DeSmidt Dies

FOND DU LAC, WIS.—Stanley L. DeSmidt, salesman for Penick & Ford, Ltd., Cedar Rapids, passed away recently in his home town of Fond du Lac.

Mr. DeSmidt had been associated with Penick & Ford, Ltd., since 1931, a total of 28 years. Prior to joining the Iowa firm in the Wisconsin territory, Mr. DeSmidt had spent several years with the Blatchford Calf Meal Co., Waukegan, Ill.

He had been active in association affairs and a booster for the Central Feed Assn.

FIRMS INCORPORATED

SUGAR CITY, IDAHO — Meyers Brothers Feed, Inc., has been incorporated, listing $40,000 capitalization by Wayne H., Anna M., Marvin C. and Mary F. Meyers, all of Sugar City. The same incorporators filed articles of incorporation for Wamar Feeds, Inc. and Diamond Bar Farms, Inc., both of Sugar City, listing $40,000 capitalization for each venture.

Drouth Expected to Limit Stock Number

DENVER—The U.S. Department of Agriculture has reported that the supply of forage for fall and winter grazing in the West is not expected to be sufficient to encourage further expansion of cattle and sheep numbers in 1959. The USDA report appeared in a recent issue of the Record Stockman.

Prospects as of July 1 indicate range feed conditions this summer and fall will at best be no better than average, and the carryover of cured forage for winter feed will probably be below average.

The drouth in the Southwest has intensified and spread until it covers practically the entire area west of the Continental Divide and south of the Oregon-Idaho-Wyoming border, according to USDA.

Over most of the drouth area, the present grazing conditions are generally the poorest for the past 10-25 years, and unless substantial moisture relief comes soon, there will be a significant increase in the early marketing of range livestock. Late June rains relieved the drier spots on the Northern Plains, and with the moderate July temperatures, there should be some further improvement, according to USDA.

Oilseed Meal Futures Prices Show Gains

MEMPHIS, TENN. — Strength in soybeans and a bullish acreage report gave a strong stimulant to the oilseed meal futures boards on the Memphis Board of Trade the past week.

Continued reports of dry weather in many parts of the principal producing areas for soybeans were coupled with the government's revelation that less acreage had been planted in soybeans than originally believed.

This sent oilseed meal futures soaring on the Memphis Board of Trade early this week and left them with gains in all contracts, compared with a week earlier.

As the rally was stirred, speculative buying entered into the market, pit observers said. This had been lacking for some time. During the first part of the period, there was profit-taking in nearby July as the price advance in the cash oil meal market met increased resistance of buyers.

Unrestricted soybean oil meal closed the period 75¢@$3.25 ton higher than one week before, while bulk solvent cottonseed oil meal ended 50¢@$1.50 higher.

Trading for the period amounted to 4,800 tons of unrestricted soybean oil meal and 2,300 tons of bulk solvent cottonseed oil meal.

Utah Drouth Causes Emergency Programs

LOGAN, UTAH — Emergency livestock feeding programs have started in southern Utah because of drouths, and the situation is expected to be critical by fall, according to a joint federal-state report.

High elevation ranges in northern Utah are furnishing good feed, however, and no emergency feeding is contemplated.

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Limitations on Egg Price Increases Noted by USDA

WASHINGTON — The egg outlook is for limited seasonal price increases in the next few months, with the increases most pronounced for large eggs of the better grades. However, if prices should rise substantially during this period when it is still practical to keep 1958-hatched layers, sales of hens would be delayed. This would tend to sustain production and limit possible price increases.

This outlook is pointed out by the U.S. Department of Agriculture in its latest report on the poultry situation.

The agency said average prices are not likely to exceed 1958 for any length of time until possibly the last month or two of the year.

While recent low egg prices speeded culling, high monthly egg production is likely to continue, USDA said.

The size of the national laying flock declined significantly in May and early June, but the recovery in egg prices may have slowed the disposition of laying birds more recently. The reduction in the flock reflects both greater culling and liquidation of entire flocks. To some extent these reductions are offset, however, by the establishment of new flocks in the last year. For example, the creation of new flocks accounts for part of the large percentage increases over last year in numbers of layers for some of the southern states.

Culling in May, when egg prices were low, probably included many birds for which the normal culling time would have been some months later. Therefore, if egg prices make even modest seasonal gains from present levels, it is possible that culling in the next few months will be less than in the corresponding period last year, USDA said.

Meanwhile, regardless of the rate of culling, large numbers of pullets from chicks hatched through April will reach laying age in every month through September. Beginning in May, the hatch dropped off sharply. (Also see story on hatchery report.)

Because of the large hatch from late 1958 to May, 1959, the number of pullets on farms this fall and early winter is likely to be above last year. The number of hens may be down because of culling. The net result may be only a small reduction in the flock next winter, probably by a smaller percentage than the increase in rate of lay at that season.

Foxbilt Leases 7,000 Gilts, Boars to Farmers

DES MOINES, IOWA—Farmers in Iowa and adjacent states are now using 7,000 gilts and boars leased from Foxbilt, Inc., it was reported recently.

The Des Moines Register says the gilts and boars are leased "under contracts whereby they return a share of the pigs produced and agree to use the company's feed premixes and protein concentrates.

"The company provides disease-free, meat-type breeding stock, assumes the risk of death losses and nonbreeders, pays property taxes on the breeding stock, delivers the stock to farms and furnishes feed on credit until pigs are marketed."

Each farmer can lease a minimum of 11 gilts and a boar or any number of such gilt-and-boar units. If the farmer already has an acceptable sow herd and needs only a boar, he can lease only the boar.

The farmer agrees to follow the company's recommended feeding program and use the company's premixes and concentrates. The breeding stock is leased for a minimum of two farrowings, and the company takes one 220-pound gilt per litter from the first two farrowings of each sow.

Total Feed Grain Tonnage Lower

WASHINGTON—Total feed grain tonnage this year seems likely to fall slightly below last year despite a sharp increase in prospective corn production, according to the U.S. Department of Agriculture's July crop report.

As reported previously, a record corn crop of 4.2 billion bushels has been indicated. However, smaller crops of oats, barley and sorghum are in prospect.

USDA noted that nearly a decade of annual acreage increases for soybeans was broken as growers carried out intentions to reduce bean acreage in 1959. The decline occurred primarily in the "Soybelt" states and is attributed to increased competition from corn acreage and the conservation reserve program. A small flaxseed crop is in prospect from reduced acreage and below-average yield.

USDA noted that total tonnage of feed grains stored on farms on July 1 was 8% higher than last year and more than a fourth above average. Corn and oats stocks were up 8 and 9% respectively.

USDA Crop Report

Crop—	Yield per acre— Average 1948-57	1958	Indicated July 1, 1959	Production (in thousands)— Average 1948-57	1958	—Indicated— June 1, 1959	July 1, 1959
Corn, all, bu.	40.6	51.7	50.1	3,251,064	3,799,844	.....	4,224,450
Wheat, all, bu.	18.0	27.3	21.7	1,075,391	1,462,218	1,181,596	1,155,132
Winter, bu.	19.2	28.4	23.0	814,784	1,179,924	941,236	932,878
All spring, bu.	15.1	23.5	17.5	260,606	282,294	*240,360	222,254
Durum, bu.	12.2	23.8	15.7	29,439	22,077	.....	19,913
Other spring, bu.	15.4	23.4	17.8	231,167	260,217	.....	202,341
Oats, bu.	34.9	44.7	35.0	1,306,458	1,422,164	.....	1,009,625
Barley, bu.	27.5	31.6	27.5	318,301	470,449	.....	414,355
Rye, bu.	13.2	18.2	15.1	22,534	32,485	.....	21,437
Flaxseed, bu.	8.5	10.3	8.2	39,700	39,543	.....	27,596
Hay, all, ton	1.45	1.67	1.54	107,134	121,924	.....	109,594
Hay, alfalfa, ton	2.16	2.25	2.15	50,542	67,134	.....	61,797

*Based largely on prospective planted acreage reported in March.

Grain Stocks on Farms on July 1

Crop	Average 1948-57 %*	1,000 bu.	1958 %*	1,000 bu.	1959 %*	1,000 bu.
Corn for grain	31.7	911,629	33.6	1,031,645	32.4	1,115,346
Wheat (old crop)	6.4	71,660	5.4	50,867	7.9	114,908
Oats (old crop)	17.1	221,879	21.1	274,338	21.1	299,734
Barley (old crop)	12.7	38,133	14.4	62,768	13.7	64,227
Rye (old crop)	10.7	2,366	9.1	2,484	13.5	4,376
Flaxseed (old crop)	6.3	2,450	6.0	1,556	8.1	3,210
Soybeans	4.3	13,751	5.6	26,961	6.2	35,444
Sorghum grain	†5.0	†11,408	5.0	28,304	5.6	34,553

*Per cent of previous year's crop. †Short-time average.

Chicks for Supply Flocks Decrease

WASHINGTON — The indicated placement of pullet chicks for broiler hatchery supply flocks by leading primary breeders of broiler replacement stock totaled 2,392,000 chicks during June, 1959, according to the U.S. Department of Agriculture. This was 26% less than domestic placements of 3,234,000 chicks in June, 1958.

Total placements (domestic plus exports) were reported at 2,575,000 as compared to 3,409,000 a year earlier.

Domestic placements of pullet chicks during 1958 are published for the first time in this report. The placement data include pullet chicks sold during the month, plus the number of pullet chicks expected from eggs sold during the preceding month. The conversion from eggs to expected pullet chicks was made on the basis of 125 pullet chicks per case of hatching eggs sold.

The primary breeders included in this report account for a very large percentage of total supply of replacement pullets for broiler hatchery supply flocks. Sales of replacement pullets by these breeders provide an indication of the potential number of pullets available for addition to hatchery egg supply flocks several months before the pullets will actually move into the flocks.

Georgia Poultry Lab Reports Some CRD

GAINESVILLE, GA.—A number of CRD cases are being brought to the Georgia Poultry Laboratory in Gainesville, but the number is not as large as it was last winter, according to Dr. D. Morris of the laboratory staff.

Dr. Morris pointed out that hot weather puts a dire strain on birds —as great as that brought by cold weather. He pointed out that good ventilation, keeping weeds cut around the poultry house and daily cleaning of waterers can help to relieve stresses that trigger CRD.

The specialist pointed out that Newcastle disease is on the decrease, with only a few cases being reported at the laboratory.

Merchants Firm Makes Operational Changes

VICKSBURG, MISS.—Operational and personnel changes have been announced by W. W. Wright, president of The Merchants Co., Vicksburg, owner of Valley Mills and Vicksburg Terminal Elevators.

E. C. Harriss

"Heretofore, operations of Valley Mills and Vicksburg Terminal Elevators at Vicksburg have been an integrated unit. Due to increased demands for whole grains and proteins in the area served from Vicksburg, The Merchants Co. now reveals plans for extensive increase in facilities for serving this demand," it was stated in a company announcement.

The Vicksburg Terminal Elevators now operates as a separate and distinct unit. In the opinion of Mr. Wright, activities of this division will become greatly enlarged.

Everitt C. Harriss, who for the past several years has been general manager of Valley Mills, will be general manager and operating head of all operations of Vicksburg Terminal Elevators with offices in the First National Bank Building in Vicksburg. He will be replaced as general manager of Valley Mills by V. C. Florian, who has been production manager for Valley Mills for the past several years.

Officers Elected by St. Joseph Feed Club

ST. JOSEPH, MO.—Harold J. Schmitz, farm director for KFEQ-TV, has been installed as president of the St. Joseph Feed, Seed, Grain & Fertilizer Club for 1959-60. He and other officers were installed at a recent meeting at the Royal Restaurant.

Other officers include Ken Winterscheidt, Winterscheidt Milling Co., vice president; Webb Embrey, St. Joseph Chamber of Commerce, secretary; Ray Gould, Dannen Mills, treasurer; Joe Joffe, Dannen Mills; Kenneth Houston, Houston Feed Co.; Roy Hunt and Fritz Hirter.

Second 'EGGtober' Promotion Planned

NEW YORK—For the second year in a row, Chas. Pfizer & Co., Inc., New York, will sponsor an "EGGtober" promotion to stress more efficient production of higher-quality eggs, and greater consumption of eggs, the company has announced.

A 4-H Club girl will be selected as Miss EGGtober to spearhead interest in the event. Another prominent feature of the EGGtober will be the "Happy Egg"—a symbol that will soon appear in several thousand retail food stores cooperating in the promotion.

J. Jerome Thompson, vice president of Pfizer and general manager of its agricultural division, says, "We hope to generate national interest through EGGtober promotion at the consumer level and thus help to boost egg consumption this fall. Pfizer joins our nation's poultry farmers, poultry organizations and the U.S. Department of Agriculture in programs designed to stress the nutritive value of eggs in the diet and to encourage greater purchase of this quality food by consumers."

Pfizer's plans include coordinating its own efforts with those of chain food stores in order to introduce and establish EGGtober as a major promotion to sell more eggs. As part of this consumer-aimed program, as many as 5,000 retail food stores will display posters of the EGGtober symbol, the "Happy Egg."

Miss EGGtober will be selected for her attractiveness, her record in 4-H Club activities and her poultry background. She will reign as queen of all EGGtober events in the coming months.

At the farm level, Pfizer said it will aim at helping poultrymen produce more high-quality eggs through use of "extra-production" laying feeds containing Terramycin. The goal will be at least the equivalent of one extra month of production.

EGGtober will be inaugurated in three-color advertising spreads in various publications. Feed-store sales promotion will be further supported by EGGtober announcements on radio and television, and through specially-created Pfizer merchandising programs. A series of EGGtober billboard displays will appear in more than 400 top egg-producing counties throughout the U.S.

The Poultry & Egg National Board will cooperate with Pfizer to bring EGGtober to the attention of the general public. It will carry on a full-scale campaign through its own promotional and merchandising activities. The promotion will reach its high point in September and October.

Spencer Kellogg Names Ad Director

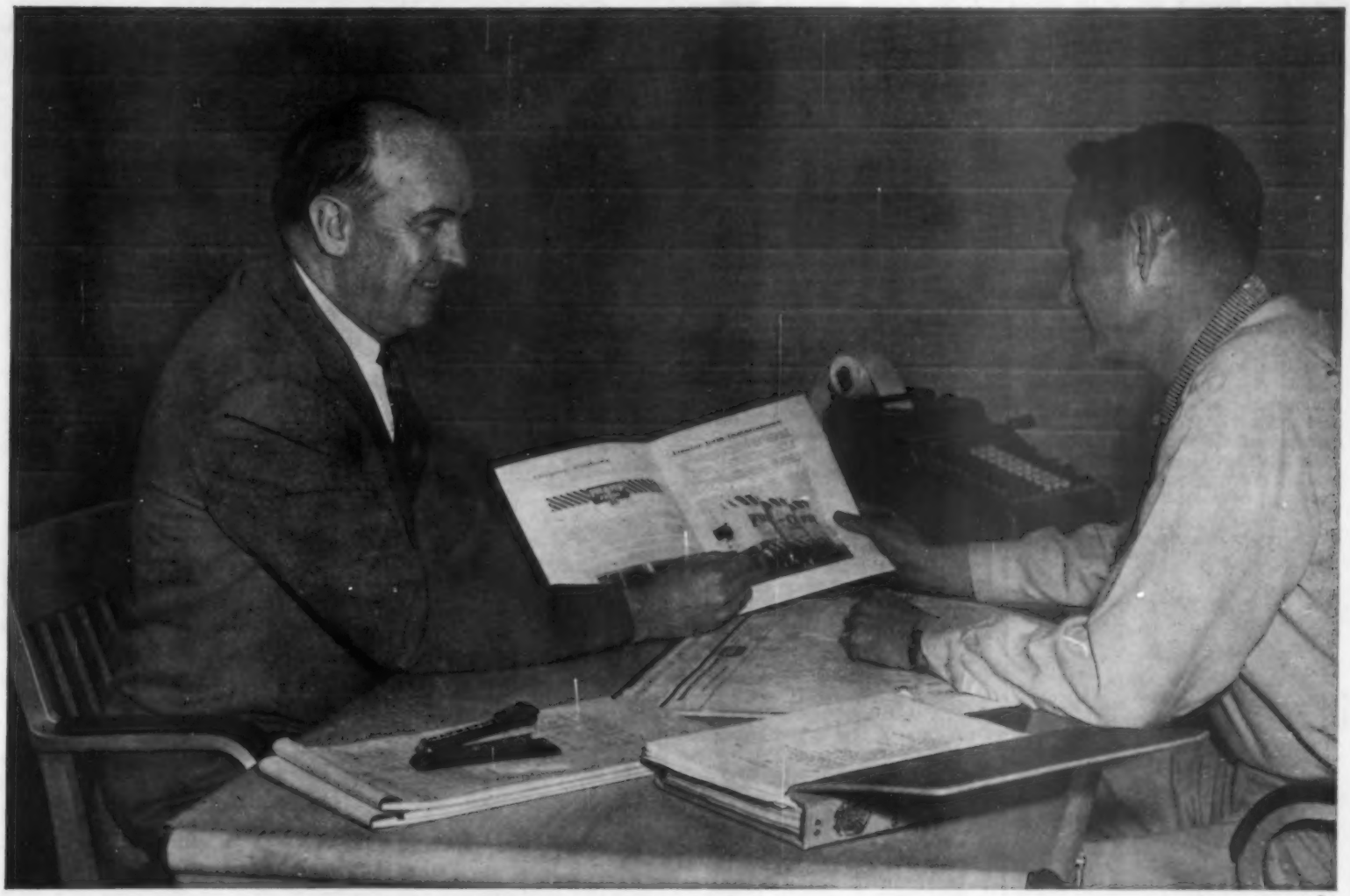
BUFFALO, N.Y. — James Willis was recently promoted to the newly created post of director of advertising and sales promotion for Spencer Kellogg & Sons, Inc.

James Willis

Mr. Willis has been engaged in vegetable oil sales work in the New York district sales office of Spencer Kellogg for the past four years. He moved to Buffalo to assume his new duties in early July. In September, 1948, Mr. Willis began his career with the Kellogg firm in its purchasing department in Buffalo. In 1951, he was transferred to the sales department working in various phases of the company's sales program in Buffalo and later in New York City.

"We believe that a sound marketing plan is the key to our dealers' success,"

says **R. N. AMMON,** *Manager of St. Joseph Feed Division of The Quaker Oats Company, in this report to Ful-O-Pep Feed Dealers*



R. N. AMMON (left) discusses marketing plans with A. C. Coffman, owner of the Coffman Grain and Feed Company, at Oregon, Missouri. Mr. Ammon, past President of the Midwest Feed Manufacturers Assn., has served the feed industry for over 23 years. In 1957, he joined The Quaker Oats Company as Manager of Ful-O-Pep's St. Joseph Feed Division.

"Through the years, I have had the opportunity to work with many dealers and to study their operations.

"It has been my observation that the dealer who analyzes his market area carefully, determines his customers' needs, then devotes his entire efforts to helping them produce meat, milk and eggs more efficiently, is the dealer who gets ahead.

"Quaker has long realized this, that's why Ful-O-Pep salesmen are spending so much time helping dealers set up good marketing and sales promotion plans.

"Our men are not only trained to help dealers determine their market potential and trading area, but they also help analyze the competitive situation and offer friendly counsel on financing, pricing and other management problems.

"New advertising and promotional ideas are constantly being developed for dealers. Selected farm directors are helping promote Ful-O-Pep Feeds on farm television and radio programs. Dealers are enthusiastic about our new billboard and direct mail advertising. Our most recent promotions—the meat-type hog bonus plan, 3-way promotion featuring Ful-O-Pep Pig Feeds, and the quality egg program—are also stimulating sales and helping dealers and feeders increase their profits.

"We extend to you an invitation to join up with The Quaker Oats Company and take advantage of our free marketing and counselling service."

Roy N. Ammon

FUL-O-PEP FEEDS

made by The Quaker Oats Company

We invite Feed Dealers to visit our modern Feed Mills located at: Cedar Rapids, Ia. Memphis, Tenn. • St. Joseph, Mo. • Sherman, Tex. • Shiremanstown, Pa. • Lawrenceburg, Ind. • Chattanooga, Tenn. • Tampa, Fla. • Asheville, N. C. • Jasper, Ala.

Farm Supply Sales to Feed Customers Add More Profit

'We have to sell other items to the farmer besides feed,' says Kentucky store manager.

By Al P. Nelson
Feedstuffs Special Writer

The grinding and mixing of feed is the biggest drawing card in the merchandising hand of the Lincoln Farm Service at Stanford, Ky., but the related farm supply sales that are made to feed customers are what help add up volume and greater profit.

"We just have to sell other items to the farmer besides feed," states Hugh Helm, manager, "and we've got a program to do it regularly. About 85% of our customers bring their grain here to be ground and mixed with concentrate. When those customers get here, they like to wander around the mill and store. That's where our displays pay off in impulse sales."

Here are some of the farm supply items which this store, part of a cooperative organization, sells: Milkers and related equipment, greases and motor oils, automobile and tractor and truck tires, fencing, farm gates, garden and lawn tools, farm chemicals, fertilizer, spray equipment, seed, poultry and hog feeders, bee supplies, roofing, paints, aluminum siding, water systems and bulk milk tanks.

BAGGING FEED—Hugh Helm, manager, Lincoln Farm Service, bags feed in mill department of Stanford, Ky., co-op.

J. W. Alford, assistant manager, sells and installs water systems and bulk milk tanks. The bulk milk tanks sell at $2,500 for a 400-gal. tank, installed, to $5,000 for some larger tanks. When this firm sells and installs a milk tank, it also has an opportunity to sell feeds and other supplies, reports Mr. Alford.

In making a call on a farmer to sell a water pump and system, or a bulk milk tank, he takes an inventory of what the farmer needs in the way of poultry and hog equipment, fencing and other items, and then calls back time and again to try to get these extra sales. This sort of sales scheduling pays off, he reports.

"While we do get many extra sales from the store displays, we get quite a few additional ones from our outside selling," states Mr. Alford. "The farmer often needs certain items, but just puts off buying them. When you come to visit him and spot those needs and mention your products, this often helps him arrive at the buying decision. Especially if you point out how the purchase of the product will fill a need and save time and labor."

Mr. Helm reports that he likes to build store traffic through demonstrations. A very successful calf feeding demonstration was held last year. Farmers were invited to guess the weight of the calf at the end of the feeding period. The winner of the contest got the calf.

"This demonstration attracted many farmers and started many discussions about feeding," states Mr. Helm, "and we sold quite a bit of calf feed as a result."

Last spring, too, the firm raised some broilers on the premises and also staged a broiler weight guessing contest. Those who guessed closest got a broiler for their efforts. Naturally, such a contest involved a lot of checking on broiler weights, feed used and rate gain.

"When a farmer comes to the store, checks on a feed demonstration and starts asking questions, that helps our business," reports Mr. Helm. "He's usually willing to discuss feeding at some length. That's better for us than to have us initiate the conversation—although we are anxious to do that, too."

This feed firm does 60% of its annual volume on feeds, and the other 40% comes from related products and services. This year Mr. Helm plans to initiate bulk service at Stanford. He plans to use a policy employed by associated cooperative stores. To get the bulk service, the farmer must buy at least 16 tons of bulk a year. Cash discounts on feed range are about $2 ton on everything 1,000 lb. or over.

This store charges 20¢ cwt. for grinding and mixing feed, and 15¢ cwt. for straight mixing. Mr. Helm says pelleted feed is selling pretty well, especially dairy feed. He thinks the use of pelleted feed will increase in his area.

OUTSIDE VIEW—This picture shows exterior of Lincoln Farm Service feed mill. Feed warehouse and farm store are at right. The company's management believes that although grinding and mixing of feed is its biggest drawing card, sales of related farm supply items to feed customers add volume and profits.

MAKING A SALE—Customer of Lincoln Farm Service is sold a milking machine by J. W. Alford (left), assistant manager. Mr. Alford may follow up later with calls to try to sell the farmer a bulk tank.

RELATED ITEMS—How Lincoln Farm Service builds volume and profits on selling related farm supply items to feed users is demonstrated here as a salesman shows a water pump to two customers. This ties in with sales of milking machines and bulk tanks.

WAREHOUSE—J. W. Alford (left), assistant manager, Lincoln Farm Service, Stanford, Ky., and Hugh Helm, manager, talk over fast-selling feed items in firm's warehouse.

Staff Changes

WALTHAM, MASS.—Several additions and promotions in Wirthmore's sales-service staff have been announced by Robert D. Emmons, general sales manager for the firm.

Chester R. Sim has been appointed a district manager in central Pennsylvania; Ray S. Edwards has joined the firm as a poultry serviceman in Maine; Curtis L. Cassady has been appointed a Wirthmore dairy serviceman in Vermont, and James M. Lawrence has joined the firm as a poultry serviceman in the Hickory, N. C., area. Mr. Sim has been with Wirthmore since 1956; the other three joined the company recently.

Moved to Central Soya Chemurgy Division

CHICAGO—The transfer of John Wicklund to its Chemurgy Division special products sales force in Chicago, Ill., has been announced by the Central Soya Co., Inc., Ft. Wayne, Ind.

John Wicklund

Mr. Wicklund was manager of meal sales for both the Chicago and Indianapolis plants prior to his transfer. He joined the Chemurgy Division in 1946.

His new assignment will cover sales of soya flour, soya grits and the company's complete line of "carriers" for medicated feeds.

"We believe that his broad experience in meal sales makes him especially qualified to assist in the expanding activities of the Chemurgy Division's special products," Dale W. McMillen, Jr., Central Soya president, said.

Pfizer to Offer Bonus With New Product

NEW YORK—Chas. Pfizer & Co., Inc., New York, this fall will offer "six-way" flashlights to dairymen as bonus items at farm stores carrying the company's animal health products.

One of the flashlights will be given with each purchase of a 12-tube carton of the firm's "Terramycin for Mastitis" product. The light has a focusing beam for use as a flood light or spot light; an emergency red-blinker warning device and a three-color light of red, green or white.

"Terramycin for Mastitis" is an antibiotic formulation with complete solubility, faster dispersion and deeper penetrating action, according to Pfizer. The company says also that the new formulation milks out cleaner and faster—well within 72 hours after infusion.

Cargo Carriers to Build Warehouses

OMAHA — Cargo Carriers, Inc., transportation affiliate of Cargill, Inc., Minneapolis, has announced plans for construction at Omaha of four commodity warehouses to begin immediately, with completion scheduled for early August.

The sheet-metal-covered buildings, to be located adjacent to Cargill's 10-million-bushel Elevator "A" in west Omaha, will include three bulk commodity warehouses—105 by 120 ft., 60 by 105 ft. and 105 ft. square—and a structure 180 by 50 ft. for storage of sacked commodities.

The first three will be used by Cargo Carriers for salt warehousing and storage of various phosphates and fertilizer products, according to Lewis L. Crosby, Cargo Carriers president. Rail and truck facilities are available and connect to barge docks on the Missouri River, he said.

Plant to Process Blood

WATERLOO, IOWA—Rath Packing Co. has announced plans to start work on a new four-story, $108,000 building to be used for processing animal blood, used in feed and glue products. The company has been selling the blood in liquid form to other processors.

NEW FEED STORE

PIEDMONT, S.C.—Formal opening was recently held at the new Wilson Feed Store in Piedmont. The company is now offering additional grinding and mixing services.

"If Gooch recommends a feeding program they've proved it works. As a dealer, knowing my customers will get results helps me sell feed."

GOOCH'S BEST

Lincoln, Neb. Salina, Kan.
Vicksburg, Miss. Dalhart, Tex.
Council Bluffs, Iowa

ORDER *Kemco*
MEAT AND BONE MEAL
QUALITY-PRODUCED BY:

KEM MILLING CO. Kemco MEAT AND BONE MEAL ALWAYS UNIFORM • ALWAYS DEPENDABLE

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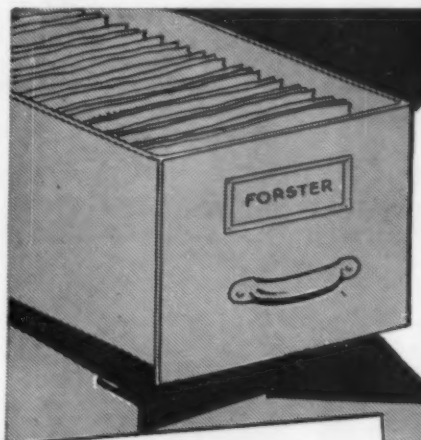
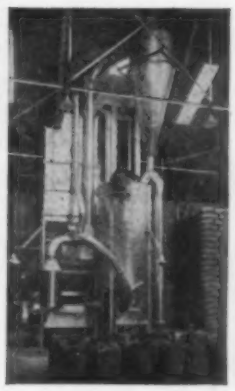


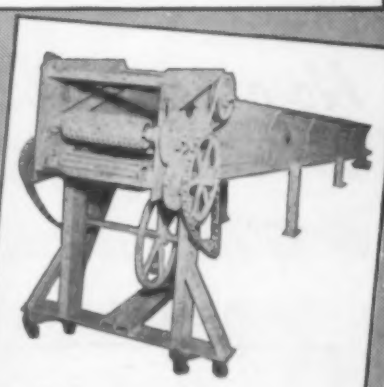
FILE *and* Remember..

Here in thumbnail style are just a few of the many feed processing and related units available from FORSTER. From FORSTER, you can buy the *best* in hammermills, mixers, blenders, etc. . . . from a single unit to a turn-key plant. Send today for more complete data on these units – or on any other equipment for feed production and grain handling. File this data to use in *your* remodeling and expansion plans.

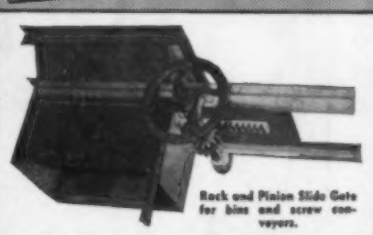
Blender — for fats, oils, water and molasses . . . a complete unit that mixes without pressure, provides complete dispersion.



Blending installation, showing Blender, dust control and Bag Cleaner.



Block Buster and Feed Table for Hammermill.



Rock and Pinion Slide Gate for bins and screw conveyors.

Vertical Batch Mixer with double and triple mixing action.

Weigh Buggy — available in 1000 and 2000-lb. capacity. Comes complete with beam scales and ball-bearing, rubber tired casters and wheels.

Distributor for elevator discharge—4, 6, 8 and 10 ways. Has positive control, is weathertight.

MANUFACTURING FORSTER COMPANY

FORSTER MFG. CO. Machinery Div.

Ph. FEderal 2-6020, Ada, Okla.

Send information on following:

- ☐ Blender
- ☐ Bag Cleaner
- ☐ Block Buster
- ☐ Weigh Buggy
- ☐ Slide Gate
- ☐ Batch Mixer
- ☐ Distributor
- ☐ Dust Control

Name ..... Firm .....
Street .....
City ..... State .....

Honeggers' can help you...

DOUBLE YOUR TONNAGE

Watch this area each month for a new dealer who has Doubled His Tonnage and Tripled His Profits on the Honegger Program.

Leonard Cordes, Manager
FARMERS GRAIN & SUPPLY
Ulysses, Nebraska

To PROGRESSIVE FEED DEALERS

We bought our first carload of Big "H" Feeds, manufactured at Honeggers' New Plant in Lincoln, Nebraska, last year. We have bought many more since then.

The response of our farmers to Honeggers' fine feeding programs has been so tremendous that we bought four full cars of feed during a recent Trainload Promotion.

We are also very enthusiastic about Honeggers' Complete Program of Livestock and Poultry Equipment, Honegger Farm Buildings, as well as being able to sell National Champion Honegger Layers.

There is no finer program that we know of anywhere. We have doubled our tonnage with Honeggers' Complete Program and we know that any progressive feed dealer anywhere can do the same.

Leonard Cordes

FARMERS GRAIN & SUPPLY

No other feed company in America has so much to offer! →

EXCLUSIVE TERRITORY protection gives the Honegger Dealer plenty of room to grow. A piddling dealer at every little crossroads is not Honeggers' idea of effective distribution.

DEALER TRAINING schools at Fairbury-Forrest and monthly district meetings help Honegger dealers and their sales personnel make sales through service. Their know-how and self-confidence makes selling easy, more effective.

SALES ASSISTANCE from well trained, enthusiastic district managers produces new business and keeps Honegger dealers inspired. Product specialists, such as building and equipment salesmen, help dealers close big sales.

LOCAL PROMOTIONS and "Planned Selling" that move 75-150 tons of feed out of the dealer's stores are not uncommon for Honegger dealers—with bulk of business on cash basis, too. Honeggers help plan and man open houses, hay-makers and ice breakers.

TRIPLE YOUR PROFITS

What others have done....you can do also WITH HONEGGERS' COMPLETE PROGRAM

➔ Write, phone or wire collect for complete details . . . *DAY or NIGHT* . . . Do it today!

HONEGGERS' & CO., INC., FAIRBURY, ILL.

SINGLE SOURCE OF SUPPLY gives Honegger dealers over 190 products sold by no one else in his territory. Combination shipments reduce freight costs, cuts dealer's equipment inventory because you are only a few days away from Honeggers' warehouse.

HONEGGER RESEARCH FARM has attracted over 40,000 visitors in past ten years. Practical research and convincing demonstrations here keep dealers and customers sold on Honegger know-how, and produce more dealer profits!

PATRONAGE DIVIDEND gifts make real boosters of farm wives and kids. Coupon-saving customers get valuable premiums direct from Honeggers without bother or expense on dealer's part. Result: terrific customer loyalty . . . REPEAT PROFITS!

BULK FEED SERVICE at Honeggers' employs king-sized fleet of hopper cars and modern bulk trucks. Honeggers' bulk farm bins are profit-makers that help dealers sew up business.

Colorado Test Shows Stored Alfalfa Loses Little Vitamin K

FORT COLLINS, COLO.—Neither dehydrated alfalfa meal nor suncured alfalfa showed any noticeable loss in vitamin K during a 24-week storage test at Colorado State University.

The study showed that the dehydrated alfalfa meal has about twice the vitamin K content of suncured alfalfa to begin with. Average vitamin K content for suncured alfalfa prior to storage was about 7 mg. per pound of alfalfa, compared with about 12.3 mg. per pound for dehydrated alfalfa meal.

In poultry rations, a certain amount of vitamin K is necessary to prevent hemorrhagic conditions in flocks. A ration containing approximately 2% dehydrated alfalfa meal furnishes enough vitamin K to prevent these conditions, according to National Research Council recommendations.

Conducting the research was Dr. Paul A. Thornton, associate poultry husbandman with the CSU experiment station. He tested first and third cutting samples from six areas, including two California locations and one each in Colorado, Nebraska, Ohio and Texas.

"In general, it appears that dehydrated alfalfa meal can be stored for as long as six months—and possibly longer—at 77° F. without noticeable loss of vitamin K," the CSU scientist reports. He also notes a slight tendency for vitamin K content of dehydrated meal to hold up better during storage than that of suncured alfalfa.

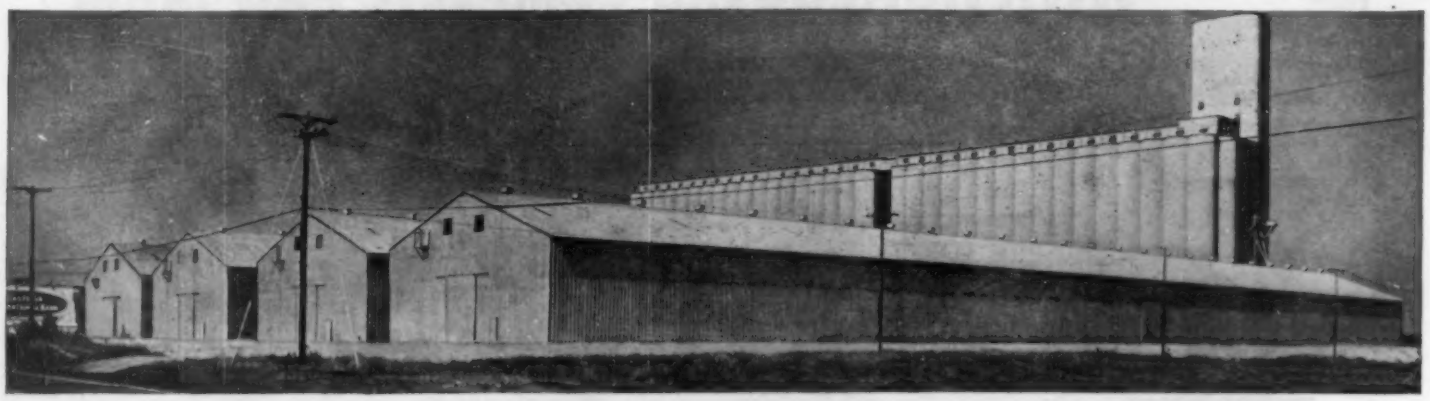
The study also lends some weight to the theory that certain compounds frequently used in poultry feeds may be interfering with the ability of birds to properly utilize the vitamin K present in alfalfa, according to Dr. Thornton.

If compounds "antagonistic" to complete utilization of vitamin K are being used in the ration, the 2% alfalfa meal requirement may need to be increased, Dr. Thornton notes.

The study was one phase of a larger research project conducted through a $36,000 grant from the Agricultural Research Service and supervised by the Western Regional Research and Development Division at Albany, Cal. Also cooperating in the test was the American Dehydrators Assn.

ELEVATOR PURCHASED

BRANDON, IOWA—The new feed firm here which has started construction of a $50,000 feed and mixing plant has purchased the Brockway elevator grain and feed business from Kenneth Brockway. The name of the firm will be the Brandon Farm Products Co.



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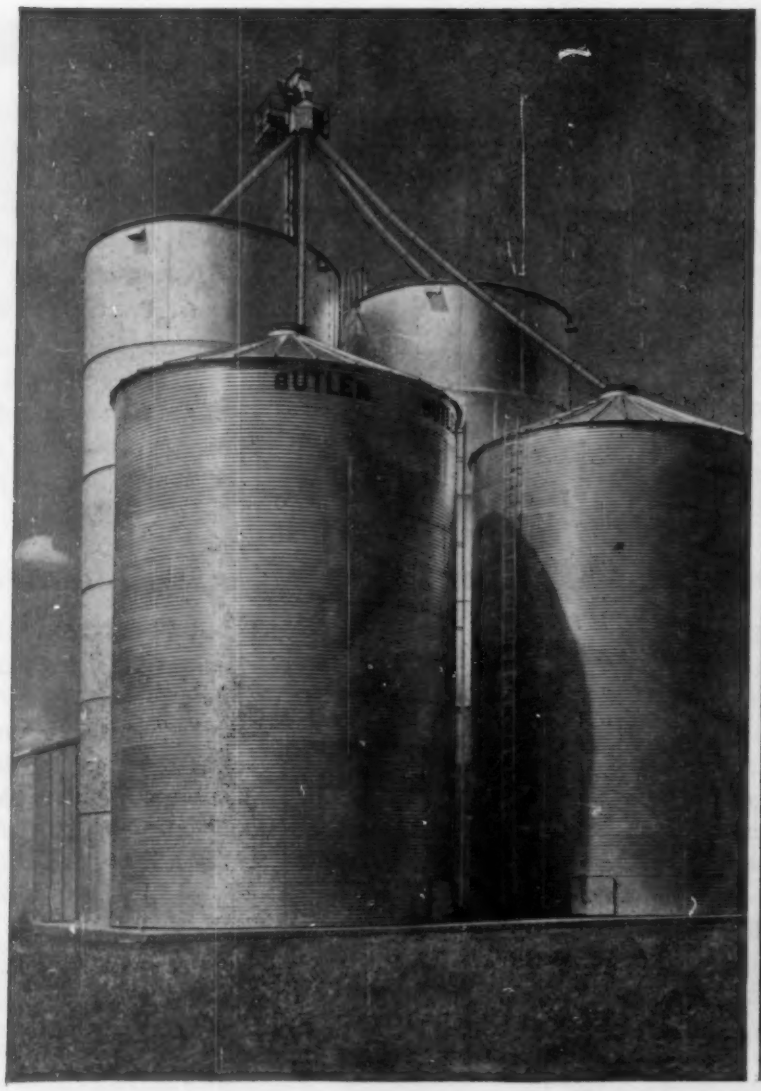
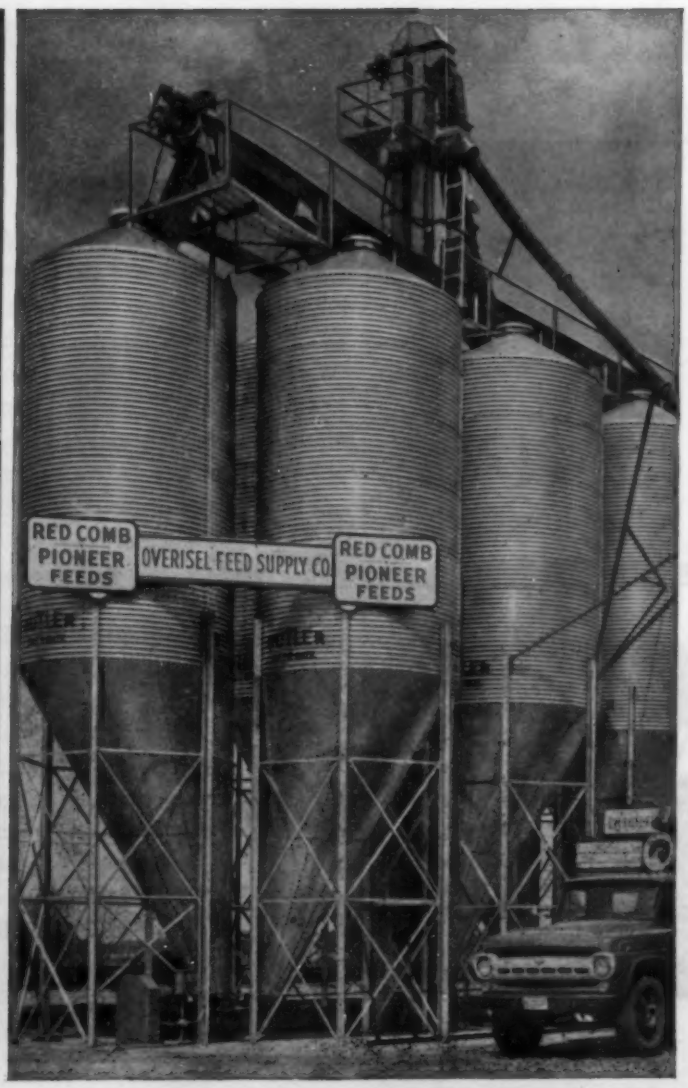




Consultant Discusses Broiler Integration

INDIANAPOLIS, IND.—The broiler producer who learns to live with integration stands to make the best profits in the future, Dr. Cliff Carpenter, Laguna Beach, Cal., industry consultant, declared recently as he addressed 160 poultrymen from nine states and Canada at the Arbor Acres Midwest farm east of Thorntown.

Dr. Carpenter recalled that in 1930 there were 10 different steps in which buying and selling took place, leading up to final preparation of a meat-type broiler. Now there are three main operating groups — breeders, growers and sellers.

Farm booking has become as important as the egg, he said.

"Before a poultryman goes into an integrated contracted system he must have assurance of markets for his broilers," Dr. Carpenter warned. "Also, he should retain an expert certified public accountant and a tax lawyer. He will find that they will bring not only safeguards against losses but also plenty of savings in the complicated business of integrated broiler production."

If the poultryman's integrated setup is right, Dr. Carpenter said, these main points will be in his favor: More units per dollar of investment handled with greater income per unit; trained supervisors available; markets nearer; quality maintained more easily; no sales or procurement costs. Also, new technology to improve efficiency will be more quickly adapted to flock feeding and disease controls.

Before World War II, he said, innovations usually met delays of several years before general acceptance in farm output. Now, some technical improvements are introduced within 20 days after clearance.

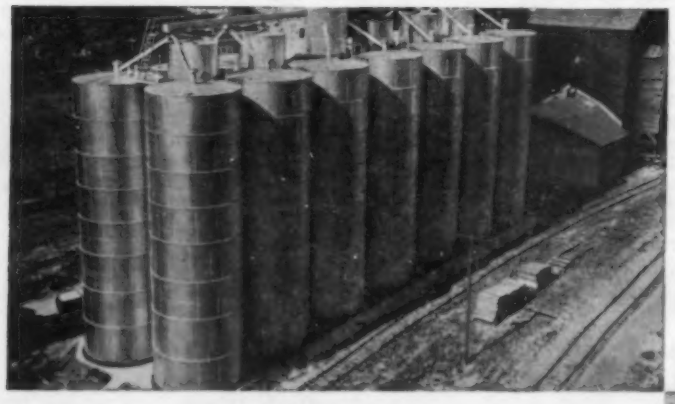
Arbor Acres, considered the largest poultry breeder of its kind in the U.S., produces much of the breeding stock for the nation's broiler industry. The firm has its headquarters at Glastonbury, Conn. Other centers, in addition to the Midwest, are at Concord, N. C.; Springdale, Ark.; Gainesville, Ga.; Skowhegan, Me.; San Luis Obispo, Cal., and Albertville, Ala.

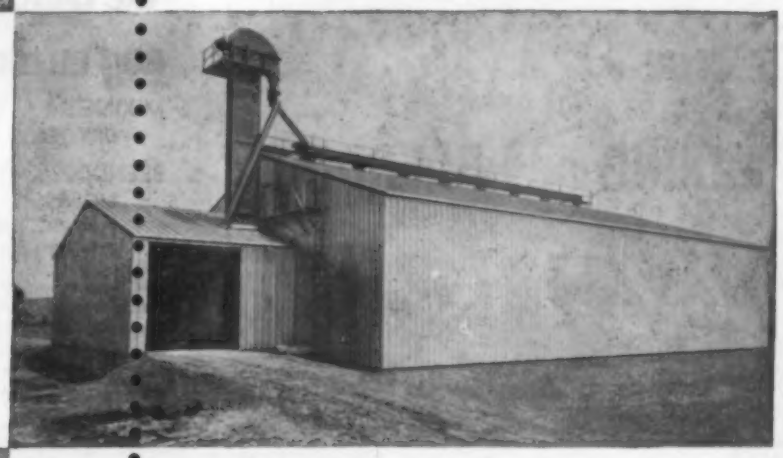
Grain Workshops in Indiana July 27-30

INDIANAPOLIS, IND.—Four district workshop meetings on grain bank costs and problems, grain drying and aeration problems have been arranged for July by the Indiana Farm Bureau Coop Assn., the Purdue extension service and the Indiana Grain & Feed Dealers Association, Inc.

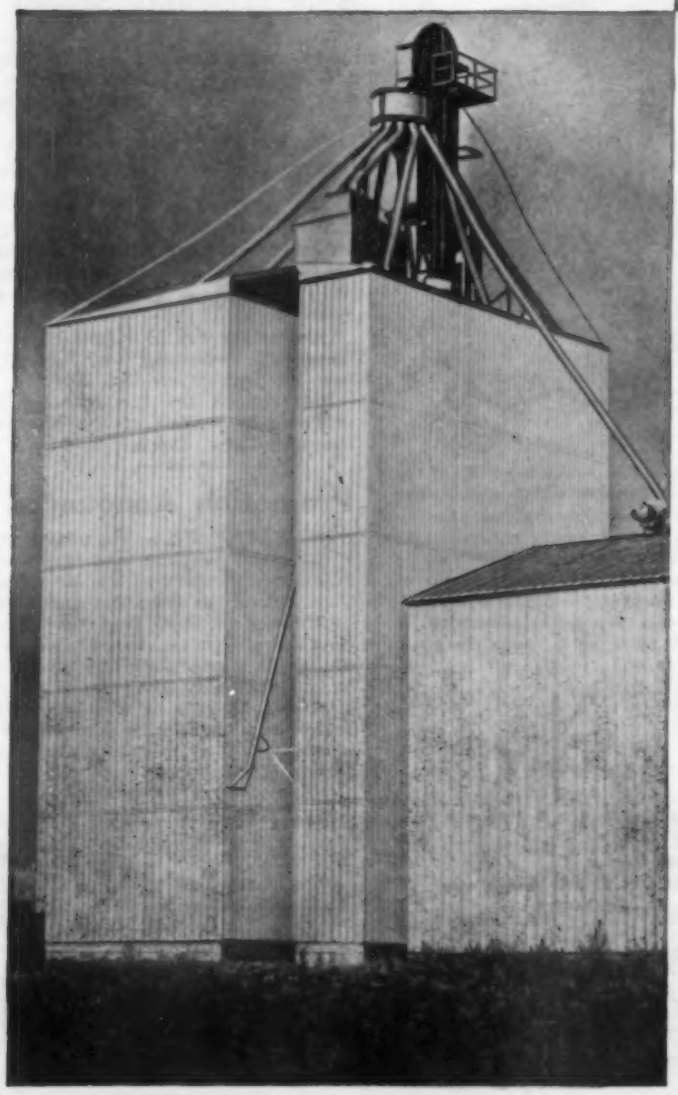
The Indiana meetings scheduled are at Lafayette, July 27; Washington, July 28; Rushville, July 29; and Ft. Wayne, July 30.

Speakers will include Dr. W. S. Farris of Purdue, Dr. G. W. Isaacs, agricultural engineer of Purdue, and G. H. Foster of the U.S. Department of Agriculture.





...Butler know-how...



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Grain or feed—flat or vertical—five tons or a million bushels—Butler has a storage structure that will exactly fit your requirements. You can select from the world's most complete line of steel structures—structures that are quality-fabricated by Butler, and job-engineered by local Butler storage experts. You select from a line that includes the most advanced developments in grain and feed storage, drying and handling equipment. Butler Square Tanks, for example, have brought a new modern look, lower maintenance, and greater safety to country elevator construction and feed mill storage. New "Giant" bin models have cut costs per bushel for individual storage structures to new lows.

When you consult Butler, you deal with the company that has provided more structures for more bushels of grain, and tons of feed than any other manufacturer. This record has been compiled only because thousands of grain and feed men found Butler to be their best buy. Let us show you why a Butler structure is your best buy. Write direct.

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Hog Production Keeps Dropping in California

SAN FRANCISCO — Hog production in California has been declining since World War II, according to the Federal-State Crop Reporting Service at the California department of agriculture.

The number of hogs and pigs on farms Jan. 1, 1959, was estimated at 416,000 head, 6% fewer than a year earlier and 23% below the 10-year average.

The California reporting service says nearly half of the hogs being raised in California are in garbage feeding establishments. Inventories Jan. 1, 1959, showed garbage fed hogs to be down 15% from a year earlier whereas grain fed hog population was up by 3%.

The 1958 pig crop was estimated at 567,000 head, 7% above 1957, but 14% below the 10-year average.

Breeding intentions reported by farmers about the first of the year indicate that California's 1959 spring pig crop will be about 2% less than in 1958. The California reporting service says indications point to an 11% reduction in brood sows in garbage feeding establishments, but a 10% increase in grain fed sows, for a total of 49,000 sows.

Robert Golden S. D. Young

A. E. Staley Appoints Three Sales Managers

DECATUR, ILL.—Appointment of Robert W. Golden, S. Douglas Young and Guy E. LeFever as district sales managers has been announcd by T. L. Mitchell, manager of formula feed sales for the A. E. Staley Manufacturing Co., Decatur.

Guy LeFever

Harold Bruniga, field sales manager, said that each man would be in full charge of sale of all the company's formula feeds in their districts. Mr. Golden has most of the state of Illinois, Mr. Young has Indiana, and Mr. LeFever will cover northern Illinois and all of Wisconsin.

Mr. Golden was with Schrock Brothers Fertilizer Co. before he joined A. E. Staley in 1954. He is a 1951 graduate of Illinois State Normal University with a degree in education.

Mr. Young joined the firm following graduation from Greenville College in 1955 with a degree in business administration.

Mr. LeFever, who was with Arcady Mills for a number of years, joined A. E. Staley when the firm acquired Arcady in December, 1957.

Ranger Firm Holds Bulk Handling School

DELPHI, IND.—The Ranger Research Corp. is conducting a modern bulk handling school for feed dealers, feed salesmen, commercial farmers and farm managers here.

The one-day sessions include discussions on how to develop a bulk business, material flow, three methods of feed lot storage and feed handling equipment. Demonstrations of feed handling and discussions on adjusting from bag to bulk are also included in the sessions.

One session was held June 29 and others are scheduled for July 27, Aug. 24, Sept. 28 and Oct. 26.

Reservations for the school are available by writing to the Ranger Research Corp., Delphi.

Promotion Announced

FT. WAYNE, IND.—The promotion of Raymond Molck to assistant feed mill superintendent at its Memphis, Tenn., plant has been announced by McMillen Feed Mills, feed division of the Central Soya Co., Inc., Ft. Wayne. Mr. Molck started with Central Soya at its Gibson City, Ill., plant in January, 1941. In 1947 he was promoted to foreman, and in February, 1959, he became feed mill supervisor at Gibson City.

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A rugged, dependable mixer that will provide absolute mix uniformity for years to come.
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The MARION MIXER has proved to be one of the Most Accurate and Versatile mixers in the industry. The exclusive Marion mixing and blending action is the key to its accuracy because of its continuous cross-blending and other mixing action which insures that even the smallest amounts of materials can be thoroughly and completely blended into your product. A constant uniform mix is guaranteed batch after batch, bag after bag.
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I am interested in the MARION MIXERS checked below:
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For example, feed one pen of birds Imported Rock Phosphate (normally rated 70% available in comparison to dicalcium phosphate). Then feed a second pen only 70% as much phosphorus from Dynamic DYNAFOS. You'll find you get equal, or even improved, rate of growth, feed efficiency and percentage of bone ash from the lesser amount of DYNAFOS.

This test clearly shows that chemically processed and purified DYNAFOS ends the waste of phosphorus feeding . . . cuts formulation costs by meeting nutritional needs with fewer pounds of product. What's more, unique beaded form makes handling and mixing better than ever. Write or wire your International representative for details.

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Plant Installs New System for Automatic Bulk Feed Weighing

The installation of bulk systems in feed plants has put added emphasis on handling and weighing facilities. Accuracy and speed become essential in efficiently handling the product, and in larger mills in particular, automatic and centralized control systems for the bulk handling have been developed.

This was pointed out in connection with the installation of a new bulk weighing and handling system at the Huron, Ohio, mill of the Eastern States Farmers Exchange.

Eastern States officials explained that the weighing system consists of a suspension hopper scale, combined with a remotely-located control console with adding machine. The scale is equipped with electrical cut-offs to control feeding, and a "direct digital selector" to transmit electrical weight signals to the adding machine recording unit. The system automatically lists the gross weight of each draft of feed mix, then subtracts the residual material in the hopper after each discharge. Thus, the printed record always shows the accurate new weight.

Weighing System Capacity

The system, installed by Toledo (Ohio) Scale Corp., is currently geared to handle two 20-ton carloads of bulk feed per hour, although the actual maximum capacity of the system can run up to 120 tons per hour. The accelerated bulk tonnage is the added output needed to supply the cooperative's increased membership, officials said. They say the processing and loading manpower requirements dropped with the new system to two men. It is only necessary for an operator to start the system, and then he can return to other duties. In addition, it was noted, the automatic system provides a permanent record of shipments, certified by the firm's weighing and inspection bureau.

"An added advantage of this Toledo weighing system," officials said, "is its ability to weigh each of the 149 types of feed mixes (56 standard, 93 custom) that are processed and shipped.

"The speeds in the bulk weighing operation are set to meet the desired requirements despite a molasses content up to 11% in many of the feed mixes. Weighing of railroad cars on railroad track scales has been eliminated."

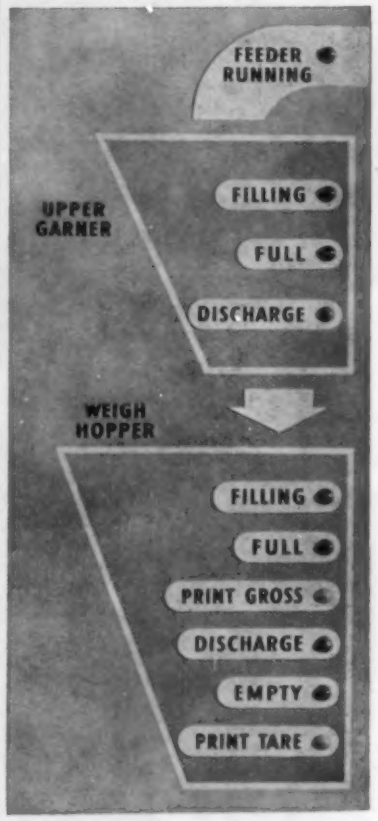
System Controls

The weighing system controls are located on the same floor as the weigh hopper, which is directly below the upper surge hopper. The railroad hopper cars are located on the level below the weigh hopper. The operator presets the number of drafts desired of an individual type of feed mix.

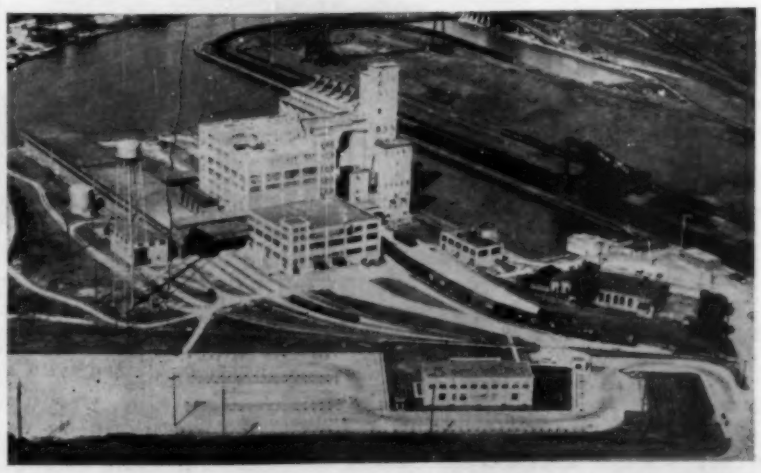
The desired type of feed mix is made on the above floor with feeder belts leading to the upper surge hopper. The scale operator makes sure there is a zero reading on the adding machine tape before pressing a button to start the feeder belt that carries the feed mix into the upper surge hopper, and another button to energize the actual weighing cycle. The rest of the operation is taken care of automatically.

The feed mix feeds in from the upper surge hopper into the weigh hopper and then automatically closes the upper surge hopper gate. The weight of each draft is indicated on the scale dial and recorded on the electric adding machine tape in the nearby scale control room. The adding machine is set up to print the gross weight of each draft; then after the draft is discharged from the weigh hopper into a chute gravity feeding to the railroad car, the weight of any feed mix remaining in the weigh hopper is recorded as a minus weight.

When the predetermined number of



REMOTE CONTROL—Shown is a diagram of the remote control console of the new bulk feed weighing system installed at the Huron, Ohio, mill of Eastern States Farmers Exchange. The controls pilot the operation from the feeder through the final discharge and printing of the net weight.



LARGE MILL—This aerial view of the Huron, Ohio, feed mill of Eastern States Farmers Exchange, Inc., shows the over-all layout of the plant, with access to water, rail and highway transportation facilitating receiving and shipping operations.

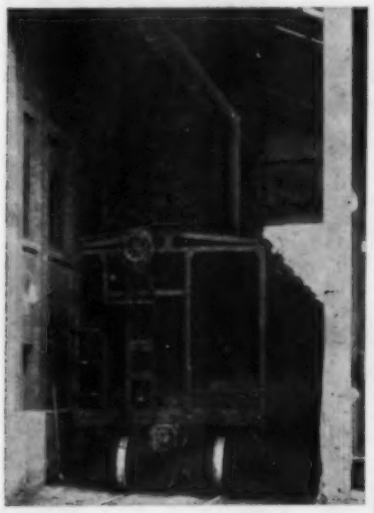
WEIGHING CONTROL SYSTEM—The control console (far left), centralizes the entire control system of the new bulk weighing system installed at the Eastern States Farmers Exchange's Huron, Ohio, feed mill. The adding machine, under the protective enclosure, records the weight of each draft, and automatically totals the net weight at the end of the entire operation. The scale, with an electrical cut-off, gives a visual indication of the weighing operation.

drafts has been delivered into the railroad car, the weighing system controls automatically stop the entire operation.

By pushing the sub-total key, the adding machine then totals the net poundage. This provides the net weight actually delivered. If this net weight is short of the predetermined amount because of the minus weights, a "trimming" operation compensates for the shortage.

The "trimming" operation consists of a manual push button which is held in until the desired poundage, as indicated by the dial, is fed into the weigh hopper. This added weight is recorded on the adding machine tape and brings the total net weight up to the desired poundage.

The total key is then pressed to show the total weight of the shipment and the adding machine is cleared and ready for the next shipment, thus completing one entire weighing operation.



LOADING—This railroad car is shown receiving bulk feed through a chute which carries feed from a weigh hopper after weighing and discharge—all part of a new system installed at the Huron, Ohio, mill of Eastern States Farmers Exchange, Inc.

Dairymen Shift to Beef, Other Lines

WASHINGTON — With an increase in prices for lower grade cows, there has been an incentive for dairymen to cull existing herds closely and to shift to beef or other enterprises, according to a recent analysis by the U.S. Department of Agriculture.

USDA officials say a sharp drop in beef prices later could result in a sharp increase in milk production at that time. The officials point out that withholding of beef cattle to rebuild herds has resulted in higher prices for lower grade cows, and that this has increased close culling of dairy herds and shifts to beef or other enterprises.

If withholding continues beyond 1959, says USDA, milk production prospects may be modified. Stable beef cattle prices would discourage a substantial increase in 1960 milk production.

However, the longer the holding-back practice is continued, the more likely the eventual decline in beef prices will be sharp, as it was in the early 1950's. This could bring a sharp increase in milk production at that time.

USDA noted that retail prices for fluid milk have been relatively stable this year. Total consumption of fluid milk shows more strength than it did at times last year.

SCALE CONTROL ROOM—The scale control room (left), houses all controls, recording and indicating elements of a new bulk feed weighing system installed recently in the Huron, Ohio, mill of Eastern States Farmers Exchange.

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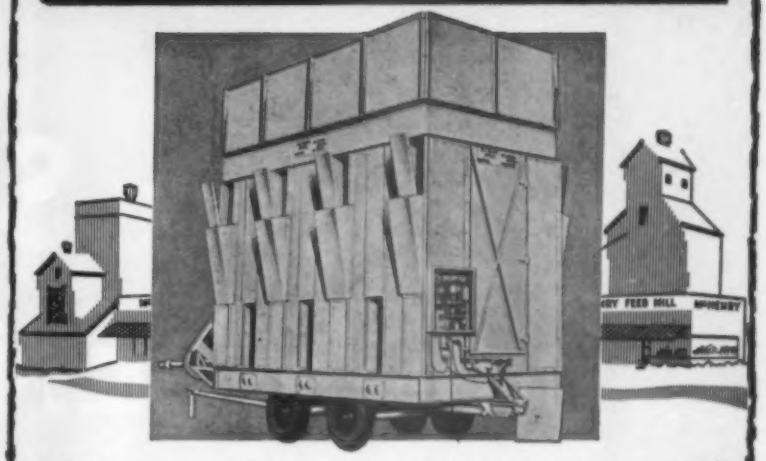

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Makes grain drying easier than ever! No batches; just simple, continuous drying. An M-C Grain Dryer at your elevator will do a better job of quality drying. Here's a grain dryer that *really* improves grain quality with no heat damage—no kernel checks or cracks. These are some of the features only available in the M-C Grain Dryer.

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Dog owners know—and prefer—famous Kasco quality. For Kasco, the natural dog food, fills a dog's *entire nutritional requirements.* Kasco gives finest condition—and at a lower cost per serving. The Kasco customer is a satisfied customer . . . a *repeat* customer.

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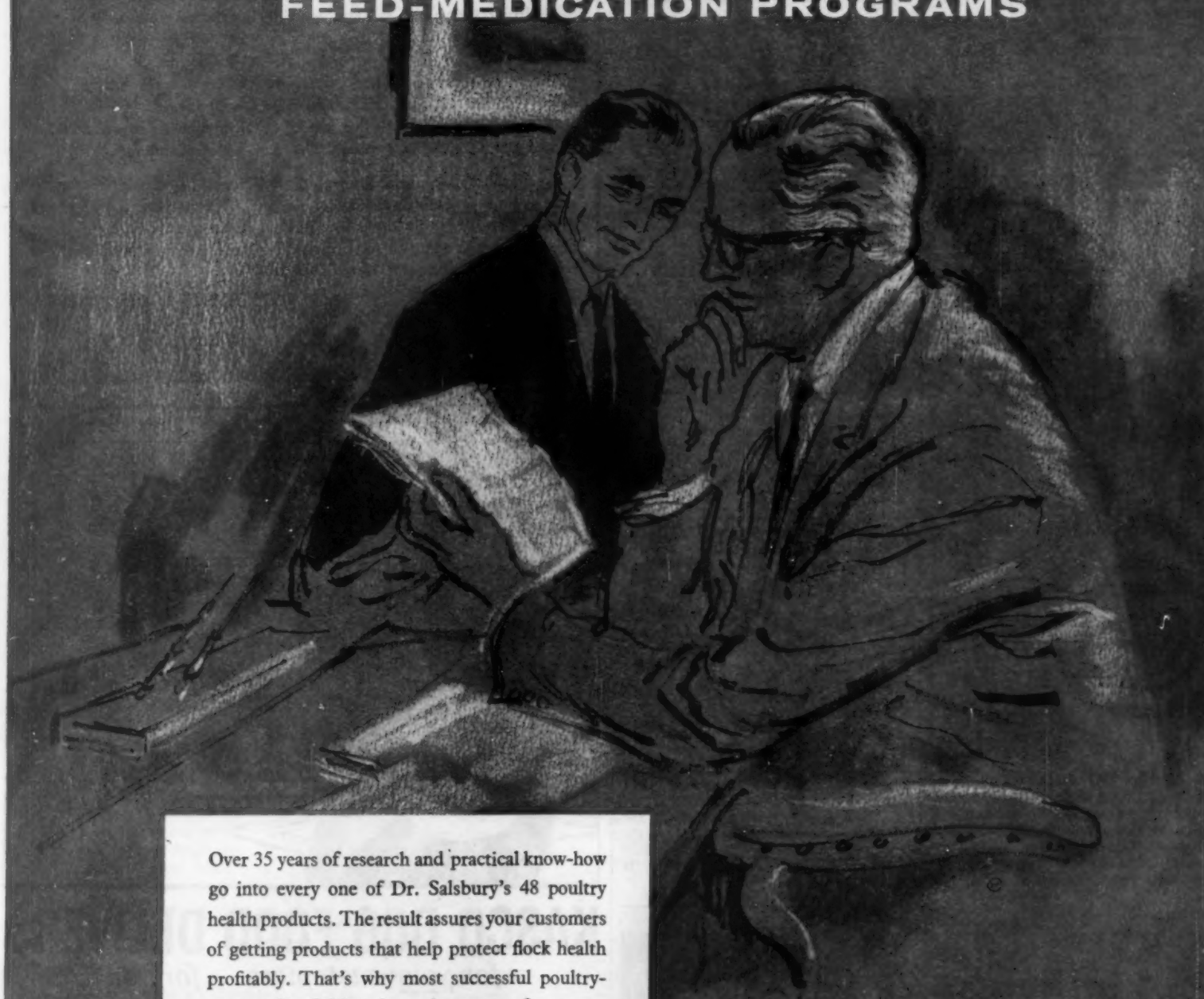


Over 35 years of research and practical know-how go into every one of Dr. Salsbury's 48 poultry health products. The result assures your customers of getting products that help protect flock health profitably. That's why most successful poultrymen use Dr. Salsbury's products year after year—they know they can depend on this time-tested, scientific approach to poultry health problems.

However, proper medication is only one part of good flock management. For best results, growers should practice sound feeding, housing, sanitation and pest control.

Dr. Salsbury's Field and Laboratory Services Make Your Feeds More Salable...

The feed industry looks to Dr. Salsbury's for additives that protect health and promote efficient poultry production. But—more than for products alone—we are known for SERVICE.

SERVICE IN THE FIELD

Every one of Dr. Salsbury's 73 field service representatives (Territory Managers) has the training and experience to provide the advice you often need on poultry disease and medication.* He keeps informed on industry problems—so let the Dr. Salsbury man show you how scientific feed-medication programs can gain for you greater customer acceptance and satisfaction.

**When difficult problems arise, Dr. Salsbury's regular field service representative may call on a corps of Technical Service Advisers from the Laboratories.*

IMPROVE YOUR OWN FIELD SERVICE

specialized training available to your staff

Dr. Salsbury's offers short courses that provide practical training in poultry disease and methods of prevention and control. Over 10,000 students from the poultry and feed industries have benefited from this training. Inquire about training for your service personnel.

SERVICE AT THE LABORATORIES

Behind our nationwide service stands science—science that specializes in poultry health. Our staff of research specialists are keenly aware of the need for feed-medication programs that work in the field. Therefore, whenever research develops a product, practical procedures are a must—to make it successful for use in the feed industry.

In the interest of the entire poultry industry, Dr. Salsbury's Laboratories is running a full-page ad (shown at right) in the July 6 issue of LIFE magazine. It will tell millions of Americans why the chicken they eat is better than ever before. It also credits developments in feeds and nutrition with contributing to today's better broilers. This type of advertising is typical of Dr. Salsbury's service to the feed and poultry industries.

At Dr. Salsbury's, science and service go hand-in-hand to provide you with superior feed additives that work in the field. Write, wire, or phone for quick, expert advisory service on poultry disease and medication.

Dr. SALSBURY'S LABORATORIES
Charles City Iowa

NATIONWIDE SERVICE TO THE FEED INDUSTRY

Identical Twin Calves Being Used in Iowa State College Studies

ANKENY, IOWA—Heifers that are fed all the grain they need for best growth are outgaining and outgrowing their identical twin sisters which have to skim along on light feeding, regardless of the inheritance they carry, in an Iowa State College experiment at Ankeny.

The whole poorly-fed group naturally gains less than the well-fed group. But members of pairs with the best inheritance for rate of gain lead each group. Those that make the poorer gains on high-grain feeding have identical twin sisters making the poorer gains on low-grain feeding, according to an Iowa State report.

Prof. A. E. Freeman, conducting the experiment, said these are some of the preliminary findings in the identical twin work. (All the heifers receive roughage free choice.) The principal purpose of the identical twin dairy herd, founded four years ago, is to learn whether animals that are to live in a "very good" environment should be bred differently from those that will live in a less favorable environment.

So far as feed differences in environment are concerned, Prof. Freeman said, it is beginning to appear that good breeding for fast gains in a good environment is going to be the best breeding, almost always, regardless of the grain feeding, so long as the levels of feeding are within practical reason.

Prof. Freeman pointed out that the effect of differences in environment on other traits of economic importance as they are related to inherited capacities of the animals will be investigated. Some results on the effect of the feed environment in relation to bred-in capacity to produce milk and constituents—such as fat, solids-not-fat and protein—may be available in two or three more years, Prof. Freeman said.

This is an important issue for dairymen, Prof. Freeman pointed out, with the widespread use of artificial insemination, and as the demand for specialization and high efficiency increases. The Iowa State College identical twin herd at Ankeny is the first large-scale designed experiment in this country which attempts to answer this problem.

Prof. Freeman said the comparison of differences at rate of gain and total growth under environments in which the feeding is different is the first phase of the investigations. The next step is an investigation of milk production in environments which are similar except for a difference in the amount of grain fed. Forty cows are on the milking line now in this phase of the experiment.

The growth rate and total growth investigations will also continue. Prof. Freeman said the herd has to add at least 16 new identical twin heifers a year to maintain the program. Identical twins are used because they are known to have identical inheritance. So-called "fraternal" twins—born from the same parents but not actually identical—have some differences in their inheritance.

Makes Changes in Bag Sales Organization

NEW YORK—A series of changes in the bag sales organization of the packaging division of Olin Mathieson Chemical Corp. have been effected, it was announced by J. R. Peat, product manager, bag operations.

Carl Campbell, formerly the St. Louis area sales representative, has been appointed central district sales manager. Mr. Campbell will maintain offices in Chicago. J. T. McNamara will succeed Mr. Campbell in the St. Louis area.

J. J. Griggs, formerly the Atlanta sales representative, has been transferred to the New Orleans sales area. The Atlanta territory will now be handled by Dale Underwood, who will reside in that city.

Frank Yocum, Chicago area sales representative, has been transferred to the Minneapolis area. Mr. Yocum will be replaced in the Chicago area by V. R. Roskam.

Warren Smiley has joined the bag sales department and will make his headquarters, temporarily, in West Monroe, La.

Feed Firms Incorporate

LITTLE ROCK, ARK.—The Scott County Feed Co., Waldron, Ark., has filed articles of incorporation with C. G. Hall, Arkansas secretary of state, to operate a livestock and poultry feed business. The firm was authorized 1,000 shares of $100 stock and listed $300 as its paid-in capital. Incorporators were W. H. Clements, Grannelly, Ark.; S. D. Mitchell, Russellville, Ark., and William Knox Dozier, Waldron. Mr. Dozier was named the firm's agent.

Danville Feed Co., Danville, Ark., has also filed articles of incorporation. The firm was authorized 1,000 shares of $100 stock and listed $300 as its paid-in capital. Incorporators were Boss and Katherine Mitchell, Danville, and S. D. Mitchell, Russellville. Boss Mitchell was named as agent. The firm said it would engage in the livestock and poultry feed business. Mr. Mitchell is a past president of the Arkansas Poultry Federation.

Alabama Flour Mills Names New Officer

DECATUR, ALA.—Harold B. Wallace has joined Alabama Flour Mills in Decatur, Ala., it was announced by C. I. Carter, vice president and general manager.

H. B. Wallace

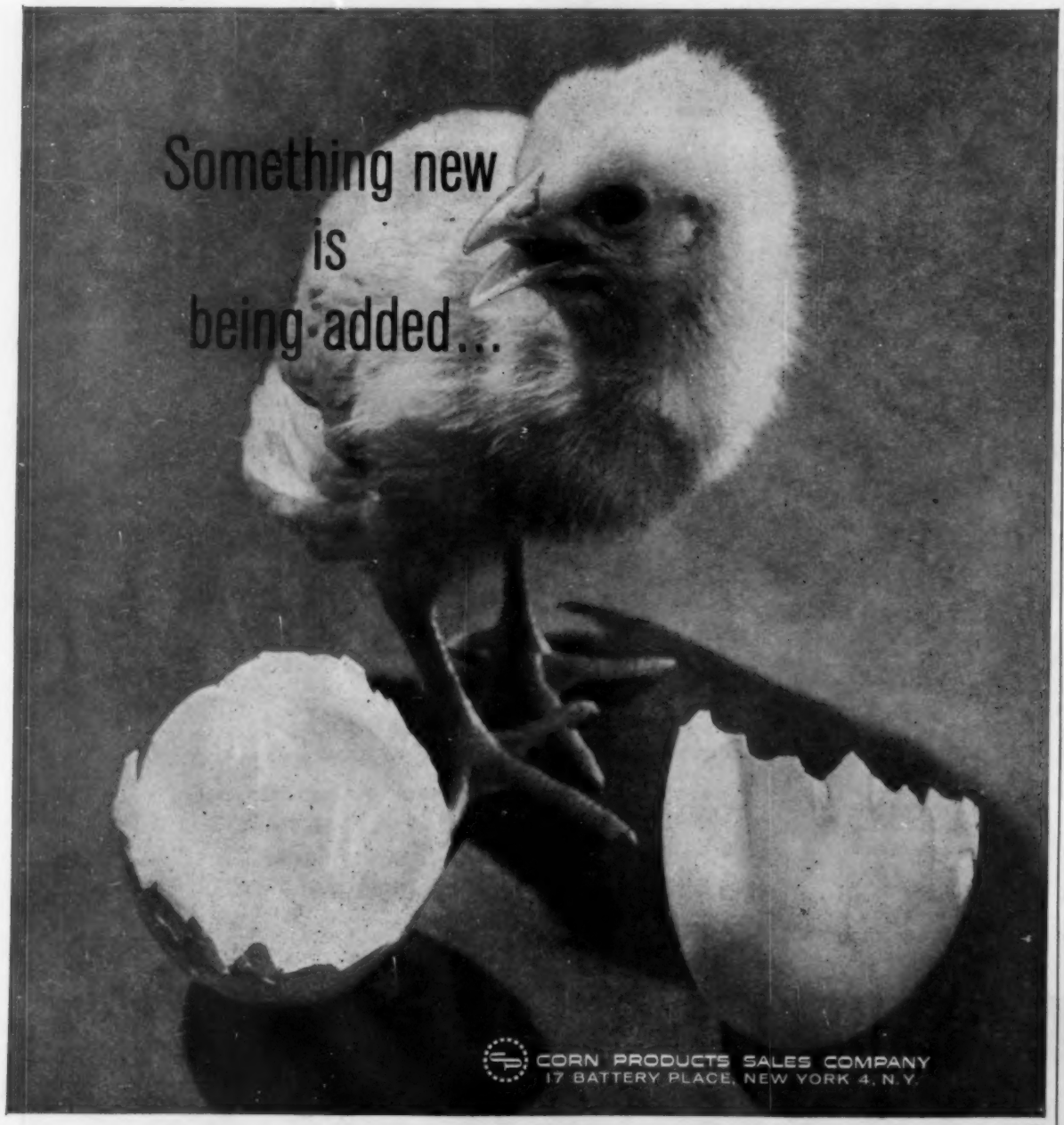
Mr. Wallace, a native of Decatur, was recently graduated from Alabama Polytechnic Institute, where he majored in business administration. He will work with the poultry management department of the firm's Red Hat Feed division.

Wise feed formulators are adding Mazoferm to starter feeds and mashes. This new and potent source for unidentified chick growth factors gives flocks a big boost in getting off to a good start, helps them hold the lead over conventionally-fed poultry.

The outcome of long and careful research by Corn Products Company, Mazoferm is a *concentrated liquid* source of vital unidentified growth factors. Potent, heat-sensitive factors are not dried out. Tests prove chicks grow faster on Mazoferm rations; taste preference studies show they *prefer* Mazoferm to other feeds.

Make sure *your* feed contains Mazoferm—it's a sure, easy way of raising better looking, *heavier* poultry—*and* increasing your profit margin.

Ask your feed dealer about Mazoferm, and write for our new 28-page brochure.



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MAZOFERM®

CORN FERMENTATION CONDENSED SOLUBLES

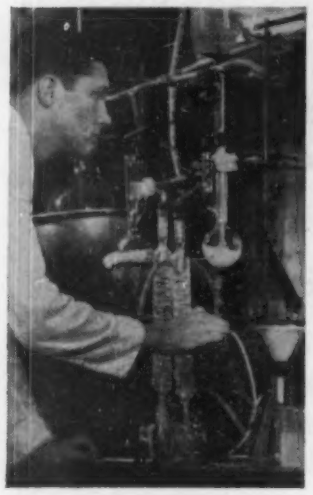
DO HIM A FAVOR HE'LL REMEMBER

(THE HOG RAISER WHO THINKS "SALT IS SALT")

REMIND HIM TO ORDER MORTON T-M SALT. Even though salt is a small part of his feed bill, Morton Trace-Mineralized Salt helps increase feed efficiency so all his feeds do a better job. He'll appreciate your reminding him—and he'll be back regularly to do more business with you. What's more, Morton T-M is a quality product you can recommend with confidence to any livestock producer. It is a profitable item backed by strong promotion that helps make it sell easily.

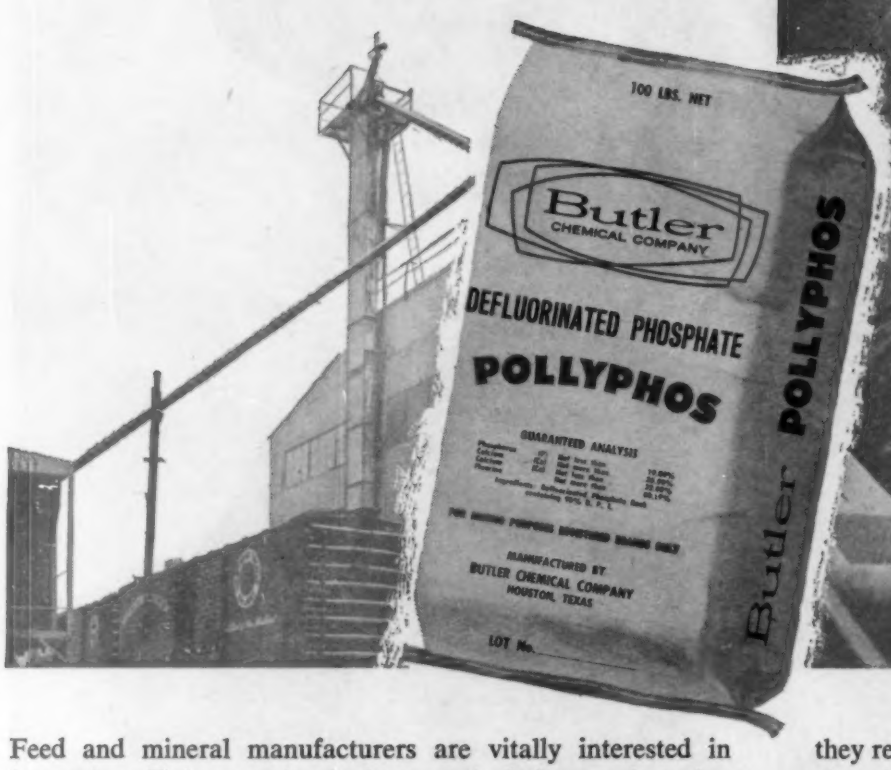
TO ADD MORTON T-M SALT TO YOUR LINE, JUST WRITE MORTON SALT COMPANY, CHICAGO 6, ILLINOIS

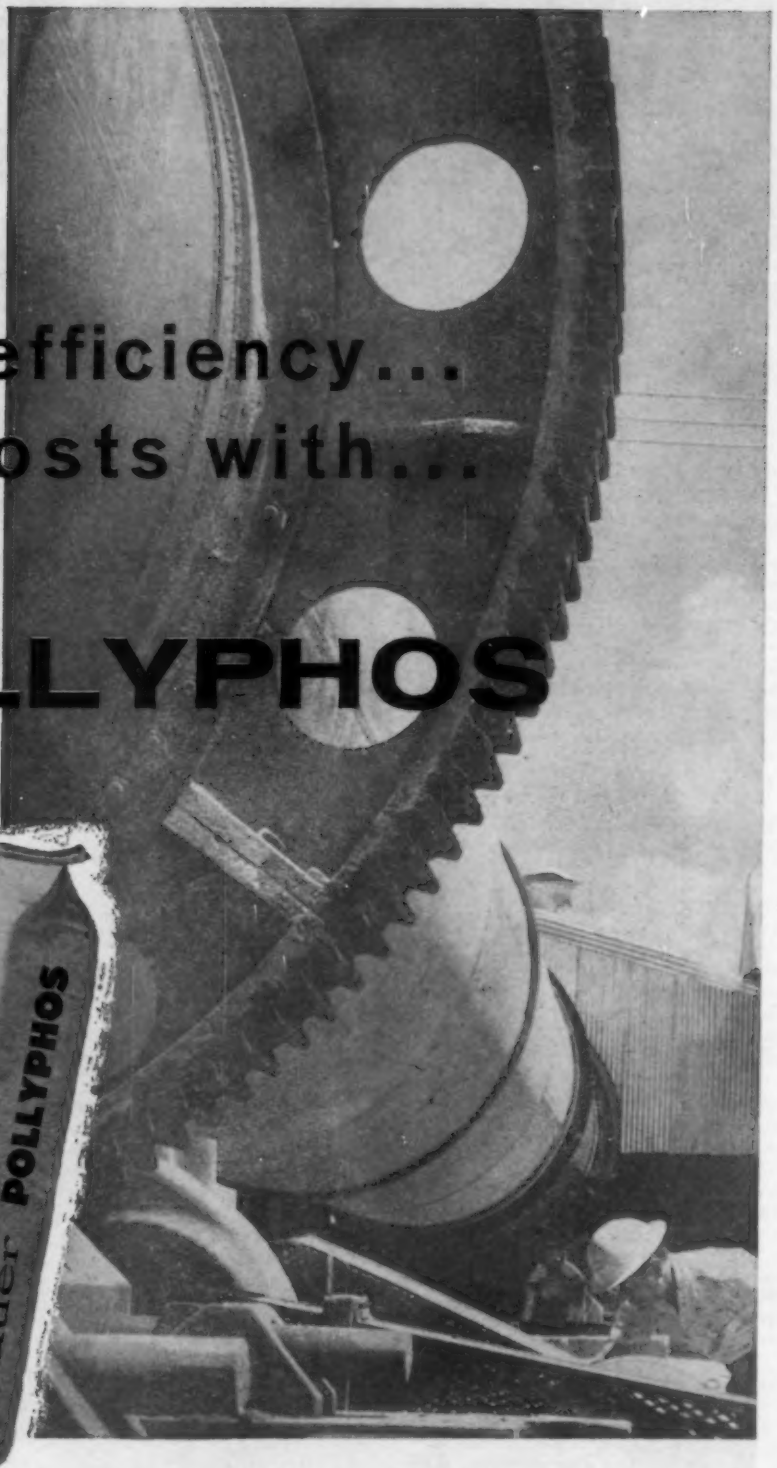
MORTON TRACE-MINERALIZED SALT



Increase efficiency... reduce costs with...

Butler POLLYPHOS





Feed and mineral manufacturers are vitally interested in increasing efficiency and reducing costs in their manufacturing processes. With increased efficiency they produce better products . . . and at the same time are able to pass on . . . to their customers . . . these products at lower costs.

BUTLER CHEMICAL COMPANY accomplishes both of these factors for their customers. Through increased efficiency they reduce costs in producing the finest quality defluorinated phosphate . . . BUTLER POLLYPHOS.

As a result . . . BUTLER is able to deliver POLLYPHOS containing the highest phosphorus content — 19% — at the lowest cost per unit of phosphorus . . . to formula feed and mineral manufacturers.

Let us acquaint you with the cost-cutting advantages that POLLYPHOS can provide you with . . . in bags, or in bulk, in truck or in carload lots. Any of our sales agents or our sales division will be happy to answer your inquiry.

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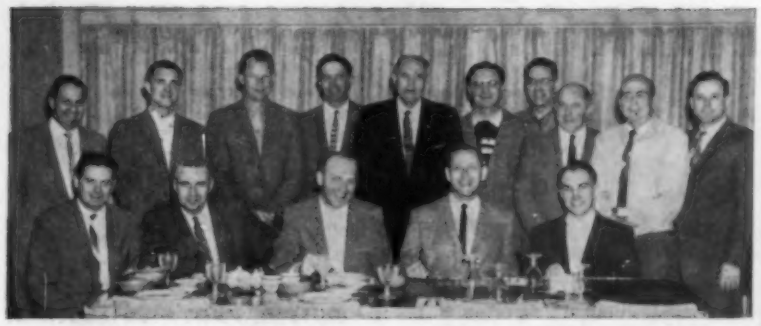

POULTRY BOARD MEETING—Shown are members of the Illinois poultry industry who attended the recent meeting of the Illinois Poultry & Egg Board as guests of Honeggers' & Co., Fairbury, Ill. Seated (left to right) are: Bob Turnage, Honeggers; Kenneth K. Heideman, Poultry & Egg National Board, Chicago; Henry Marlowe, Marlowe Feed & Hatchery, Huntley, Ill., and president of the Illinois Poultry & Hatchery Federation; Ralph J. Thomas, DeKalb Chix, Sycamore, Ill., and Claire Hendrix, Hendrix Hatchery, Kankakee, Ill., president of the Illinois Feed Assn. Standing (left to right) are: Larry Huff, DeKalb Chix, Sycamore, Ill.; Stan Taylor, Standard Hatchery, Decatur, Ill.; J. H. Buckingham, egg producer from Long Point, Ill.; Ben Ward, Ward Hatchery, Geneseo, Ill.; Clarence Ems, poultry superintendent, Illinois State Department of Agriculture; Aubrey E. Harless, Illinois Poultry & Hatchery Federation; Dr. G. F. Godfrey, Honeggers; Scott Henners, Southern Illinois University; Frank Honegger, Honeggers, and Ernest Brown, Corn Belt Hatcheries, Gibson City, Ill.

USDA Points Out Ultrasonics As Backfat 'Probe'

WASHINGTON — A test using measurements made with an ultrasonic device gave better estimates of average carcass backfat thickness than estimates by an experienced hog grader, according to a report issued by the U.S. Department of Agriculture.

The ultrasonic device sends a high-frequency sound wave through the backfat of the hog. After the sound wave reaches the boundary between backfat and lean, or between backfat and backbone, it is reflected back to the surface. The time used for the sound to go down through the fat and return is used as the measure of the backfat thickness.

Agricultural Marketing Service researchers reported on a test of the ultrasonic device on 170 live hogs at a packing plant. They found that a grader might make fewer grading errors if he had an ultrasonic device to provide him with good estimates of backfat thickness.

More accurate grading would make wider grade-price differentials possible, and the accuracy of live hog grading is determined to a considerable extent by the accuracy with which backfat thickness is estimated.

Although use of the ultrasonic device could lead to improved live hog grading accuracy, application of the device at present may be too slow for commercial use in grading live hogs for slaughter. AMS is providing funds for additional research by ARS scientists at Beltsville, Md., on use of the ultrasonic method on live hogs.

Representatives of the animal husbandry and agricultural engineering research divisions of ARS, the livestock division of the AMS, and of the Farmer Cooperative Service of the U.S. Department of Agriculture, and of the division of markets, Virginia Department of Agriculture, assisted in gathering the data.

A free copy of this report, AMS-318, "Comparison of Two Methods of Estimating Backfat Thickness in Live Hogs—Human Judgment Versus Ultrasonics — A Preliminary Report," may be obtained from the Marketing Information Division, Agricultural Marketing Service, Washington 25, D.C.

Feed Mixture Helps Horses' Heaves

WALTHAM, MASS.—Research conducted by Wirthmore Feeds, Inc., in cooperation with Mrs. Barbara Montgomery, Framingham, Mass., has resulted in a feed mixture offering new hope for the relief of "heaves" (emphysema), according to Dr. Kendall L. Dolge, Wirthmore livestock nutritionist. Mrs. Montgomery has been interested in the problem of heaves, a lung disorder in horses, for several years, Dr. Dolge said.

The ingredients used in the new grain mixture were selected to avoid any to which afflicted horses were found to be allergic, with extra vitamins and minerals added to assure concentrated nutritional value, says Dr. Dolge.

Feeding studies show this feed to be excellent for putting on flesh and holding condition of all stable horses, especially those "difficult keepers," Dr. Dolge reports. "For normal horses this feed can be fed from the bag, mixed with water-soaked beet pulp or mixed with equal parts of oats," he said.

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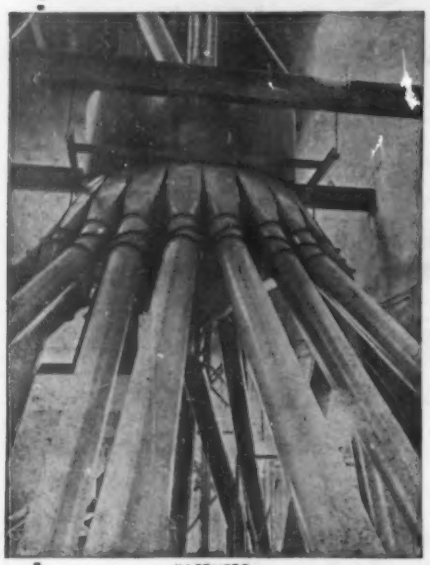

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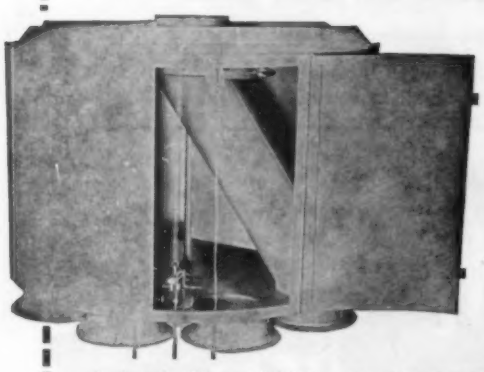

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ENERGY EVALUATION OF FEEDSTUFFS

By Dr. J. A. Wood
University of British Columbia

EDITOR'S NOTE: In this review, Dr. Wood brings up to date progress made in animal energetics. Dr. Wood is on the staff at the University of British Columbia, Vancouver, B.C., in the division of animal science. This article was initially presented as a talk at the Oregon Animal Industry Conference.

On Aug. 6, 1945, an atomic bomb fell on Hiroshima. It represented the greatest man-created release of energy to that date. Energy took on a new significance for both layman and scientist. One hundred and sixty-eight years earlier an equally significant, though less dramatic, report was presented to the French Academy of Science by Lavoisier on his experiments on the release of feed energy by animals. He offered the first experimental proof that animals are capable of unlocking the configurational energy of their feed and thus are able to maintain their body temperature above that of their environment. Lavoisier's world of 1777 was as turbulent as ours of 1945—serious differences of opinion existed between Britain and her North American colonies. France was undergoing the difficult transition from a monarchy to a republic. I sincerely hope that this attempt of mine to evaluate feedstuffs in terms of their energy content does not lead me to the same end as Lavoisier. He lost his head by the guillotine in the hands of the Paris Commune of 1794.

We have made some progress since the birth of this science of animal energetics. To review and summarize this progress for you I propose to proceed on the assumption that a basic knowledge of the subject will lead you to the practical applications that you seek.

Basal Metabolic Rate

If a pig or a steer with an empty digestive tract is placed in a thermally comfortable environment and is persuaded to remain quiescent, we can, by suitable techniques, show that it gives off an amount of heat that bears a fairly definite relationship to its body weight. This amount of heat energy is referred to as its basal metabolic rate. It is the minimal amount of energy that is compatible with its existence as a warm blooded animal. The fuel used to provide this energy is provided by its own tissues. If it is to remain a living entity for any length of time, an alternative source of fuel must be supplied from external sources such as feed.

If an amount of digestible feed energy is provided exactly equivalent to this basal metabolic rate, it will be found that the animal's total heat production has increased. There has been a heat increment associated with the consumption of this feed. This heat increment is called the specific dynamic effect of the feed by the student of energetics. Under these circumstances the animal has spared some of its own body tissues but it is still burning a portion to make up the difference between the digestible energy intake and the now elevated heat production.

If additional increments of feed energy are provided, it will be found that at some level the animal will reach the point of positive energy balance. When the digestible energy intake exceeds the heat production the animal has chemical energy to spare for carrying out agriculturally useful functions. When the feed intake provides the precise amount of digestible energy required to cover the basal heat production plus the specific dynamic effect, the animal is said to be nearing its maintenance level. The distribution of gross feed energy under these circumstances is shown in Figure 1. No energy is available for body weight gain. If feed intake is doubled, the animal will have an excess of chemical energy (Figure 2). It can now gain in weight, produce milk, lay eggs or produce wool, depending upon its genetic make-up. A schematic representation of energy distribution in a swine feed is given in Figure 3.

Feed Energy Categories

The nutritionist's task is to determine the precise amount of energy needed for each body function and then translate these energy requirements into feed terms. While doing this a further translation into terms of feed efficiency or cost efficiency must also be made. To achieve these ends he has evolved a series of feed energy categories to facilitate this translation. They are presented below.

1. Gross feed energy—The total yield of heat energy obtainable from a feedstuff when it is oxidized to carbon dioxide and water in the bomb calorimeter. This category has limited nutritional significance.

2. Digestible feed energy—The gross energy of the feed less the gross energy of the feces that arise from it. The portion of the gross energy that crosses the intestinal or rumen walls and passes into the animal's metabolic pool.

3. Metabolizable energy — The digestible energy of the feed less the urinary energy that arise from it.

4. Net energy—The metabolizable energy of the feed less the specific dynamic effect arising from its utilization.

5. Specific dynamic effect—The fraction of the metabolizable energy

FIGURE 1

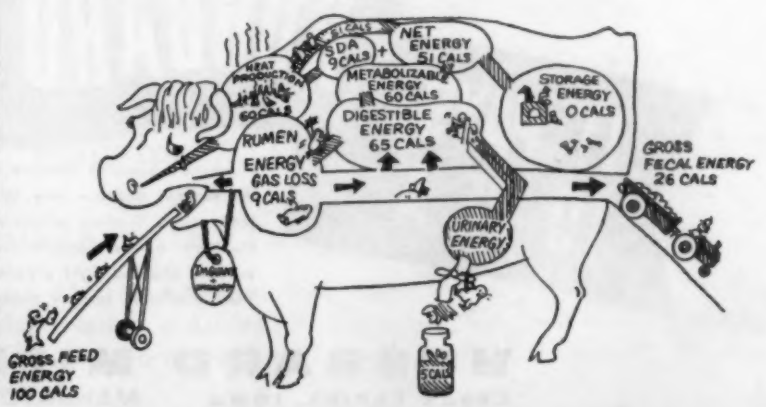
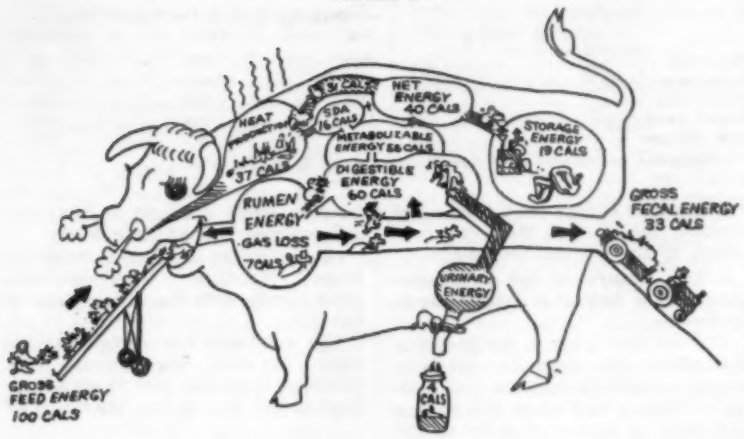

NET ENERGY 51 CALS
SDA 9 CALS
METABOLIZABLE ENERGY 60 CALS
HEAT PRODUCTION 60 CALS
DIGESTIBLE ENERGY 65 CALS
STORAGE ENERGY 0 CALS
RUMEN ENERGY GAS LOSS 9 CALS
GROSS FECAL ENERGY 26 CALS
URINARY ENERGY
GROSS FEED ENERGY 100 CALS

FIGURE 2



that arises as heat in the course of all the metabolic processes associated with the rearrangement and ultimate use of the digestible energy. It can serve only to warm the animal. It can not be converted into usable animal products.

From the context of these definitions it is apparent that the most important is the net energy category. It is from this net energy fraction that the animal obtains the heat necessary to cover the cost of its continuous heat production and to provide the chemical energy that is reformulated in the course of metabolism to make new muscle tissue, lay down body fat, produce milk or other valuable functions.

If the animal is exposed to a temperature below its comfort zone it will increase its heat production by burning additional fuel in its chemical engines, the cells. Under these circumstances the specific dynamic effect of the additional feed consumed will be of direct benefit to the animal since the heat energy so released will assist in maintaining body temperature and thus spare the breaking down of body tissues or the consumption of still more feed. When the environment temperature is above the thermal neutral point the heat arising from the specific dynamic effect provides a serious threat to the animal since it must be eliminated if the body temperature is to remain constant. The seriousness of this extra heat depends upon the productive function the animal is attempting to perform. If the animal is a dairy cow in full production, consuming close to her maximum feed intake, this extra heat load may be great enough to force her to reduce milk output to a level compatible with maintaining her body temperature.

The precise net energy yield obtainable from any particular feedstuff is a function of:

1. The chemical nature of the feedstuff;
2. The nature of the other nutrients fed with that feedstuff;
3. The intake level at which the feed is provided;
4. The anatomical and metabolic features of the animal consuming the feed, and
5. The nature of the productive function the animal is attempting to perform.

1. The Chemical Nature of the Feedstuff—

An approximation of some typical gross digestible, energy values for feedstuff constituents that can be characterized in the chemical sense are presented in Table 1.

A study of the data presented indicates the wide range of ultimate energy values achievable from common feedstuffs. In general terms it can be stated that the energy level of a particular feed constituent depends upon its level of oxidation in a feedstuff.

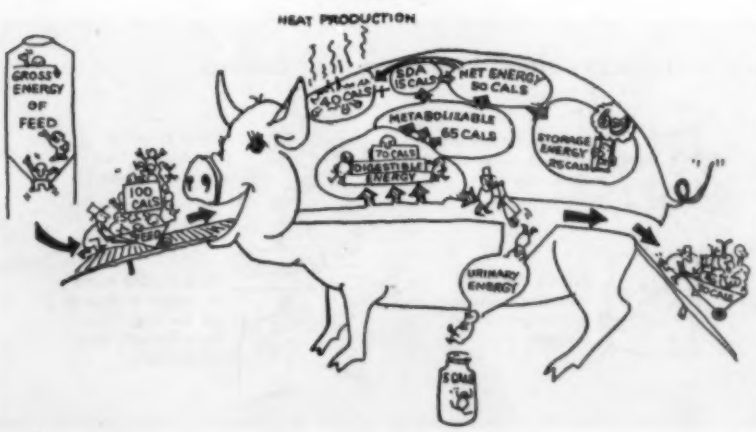
When an animal burns carbohydrates such as sugar and starch it has only the carbon portion of the feed available for oxidation. The hydrogen can be considered to be completely oxidized and present essentially as water. Hence the name "carbohydrate" from the German "Kohlenhydrate" or hydrate of carbon. In the case of the fats and oils, the animal has not only carbon available for oxidation but also appreciable amounts of energy-rich hydrogen. The comparison of the energy yield of a typical carbohydrate and fat is shown in Figure 4.

It is perhaps pertinent to point out that a correspondingly great feed en-

TABLE 1—Energy Values for Feeding Stuff Constituents

Constituent	Gross Energy Calories		Digestible Energy Calories	
	gram	pound	gram	pound
Starch	4.1	1905	3.9	1766
Sugar	4.0	1814	4.0	1814
Fat	9.45	4264	9.0	4080
Protein	5.65	2585	5.0	2270
Urea	2.5	1134	..	....
Straw	4.4	2000	1.8	816
Hay	4.5	2040	2.2	1000
Wheat bran	4.5	2040	3.0	1360
Linseed meal	5.1	2313	3.9	1770
Cattle ration	4.5	2040	3.9	1450
Fire wood	8.0	3630	?	?

FIGURE 3



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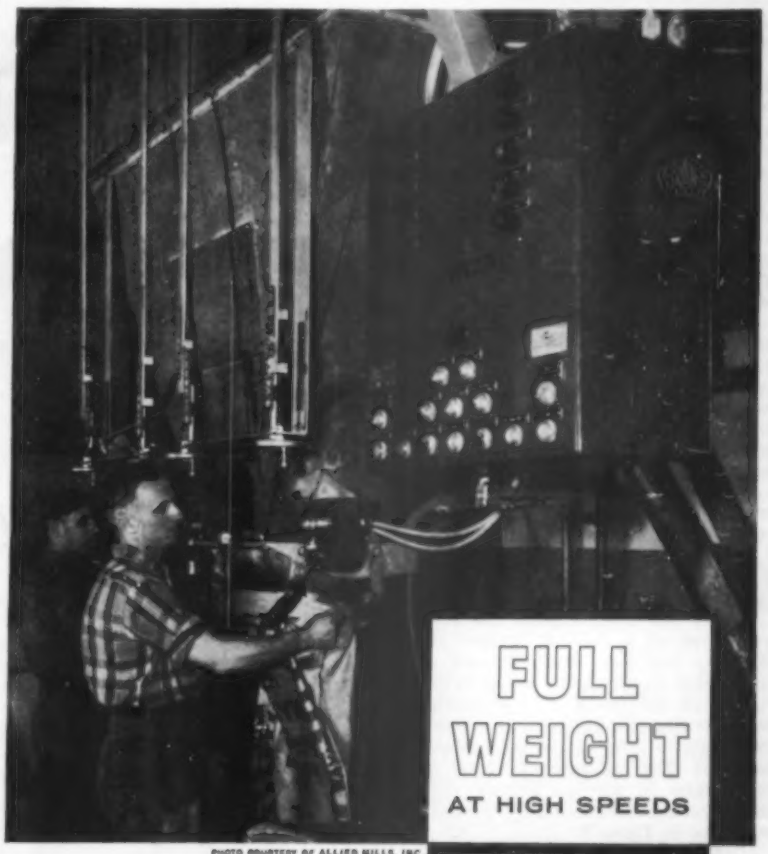

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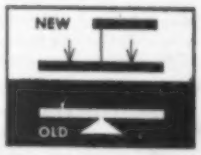
consistent accuracy gives you weight security without wasteful overfilling of bags. Thayer Filling Scale, Model 2N18CC, pictured above, fills 50 lb. bags at high speeds reliably and with sustained precision. In addition, when filling materials are changed, the scale is easily adjusted by one simple control.

Write for our new Filling Scale Bulletin and the name of your local Thayer sales and service representative.



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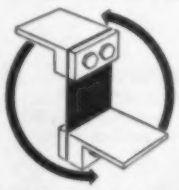

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TABLE 2—The Influence of Level of Feed Intake Upon the Net Energy Yield from a Feed*

	Plane of Nutrition			
	0.5 B	1.0 B	1.5 B	2.0 B
Feed consumption lb./day	3.5	8.0	13	21
Protein consumption lb./day	0.4	1.0	1.7	2.6
Protein equivalent of urinary nitrogen	0.5	0.6	1.0	1.25
Ratio of net energy yield to gross energy intake (%)	53	50	43	36

*Values computed and rounded for illustrative purposes from the data of E. B. Forbes.

TABLE 3—Digestible Energy Yield from Certain Feeds in the Pig and Bovine*

	Digestible Calories Per Pound of Feed		
	Pig	Bovine	Difference
Wheat bran	1020	1190	170
Linseed meal	1220	1370	150
Alfalfa meal	600	940	340
Brewers yeast	1170	1350	180
Cane molasses	1050	1300	250

*Computed and rounded from digestibility values of E. W. Crampton.

ergy requirement is needed to produce a pound of animal body fat.

2. The Nature of the Other Nutrients Fed with that Feedstuff—

To obtain maximum utilization of feed energy it is essential that the animal be provided with the essential amino acids, vitamins and inorganic nutrients. Each calorie requires for its effective utilization a series of enzymes or body catalysts. These enzymes are protein in nature and require very specific groups attached to them to permit them to carry out their functions. Some, if not all, of the vitamins are involved as the specific groups of these enzymes. More will be said on this aspect of energy utilization in a subsequent lecture.

3. The Intake Level at which the Feed is Provided—

You have all noted that the gas mileage yielded by your car is a function of the speed at which you drive. At very low speeds the car is relatively inefficient. The animal at the maintenance level of energy intake is comparable with the slow moving vehicle. Feed energy is all being used to keep the animal mechanism turning over. If it is a steer it will be gaining little or no weight, hence the feed efficiency will be extremely poor. If your car is driven at high speeds, relatively large quantities of gas energy are used per mile traveled. An animal driven at high speed suffers a corresponding drop in efficiency. The specific dynamic effect is increased and hence a considerable heat loss occurs.

As pointed out before, this loss is entirely in the form of heat and cannot be used for a productive purpose. If the fast moving car has one spark plug that is not firing normally, an appreciable wastage of fuel occurs. If a heavily fed animal lacks the feed precursors of a criitcal enzyme its efficiency will drop. The efficiency of combustion in an engine tends to decline with increasing fuel consumption. The digestibility of animal feeds also tends to drop as the feed intake increases. The influence of level of feed intake on the net energy yield from a feed is illustrated by the data presented in Table 2.

4. The Anatomical and Metabolic Features of the Animal Consuming the Feed—

The energy yield obtainable from a feed depends a great deal upon the anatomical features of the animal that is consuming it. The mink, with its simple and short digestive system, can make very limited use of fibrous feeds or feeds in which the carbohydrate fraction is protected by a sheath of cellulose or lignin. The hog, with its simple but longer digestive tract, can extract somewhat more energy from such feeds. The steer, with its huge digestive system aided and abetted by its built-in fermentation tank or rumen, makes very successful use of such feeds.

Table 3 provides a comparison of the digestible energy yield from some common feeds when they are consumed by the pig and the bovine.

5. The Nature of the Productive Function the Animal Is Attempting to Perform—

The end use to which the energy is put within the animal's metabolic system also influences the yield obtained from a feed when this yield is expressed in terms of body weight gained. The nature of the body weight gained is the determining factor in the efficiency of energy use in the weight gain sense. A pound of gain in the form of muscle or protein represents the storage of about 500 calories, while a pound of body fat will contain nearly 4,000 calories.

Crampton, in his book, "Applied Animal Nutrition," illustrates this point clearly with the values given in Table 4.

The ruminant has certain advantages in extracting energy from roughage feeds but part of its advantage is lost due to the liberation of

TABLE 4—Efficiency of Energy Utilization by the Bacon Pig

Age, Months	Gain/100 Lb. Feed
2-3	40-50
3-4	25-30
4-6	18-20

FIGURE 4—To Illustrate the Relative Energy Yield from Carbohydrate and Fat

A Carbohydrate

$C_6H_{12}O_6$
$-6H_2O$

C_6 $6O_2$ $6CO_2$ energy

1724 calories per pound

A Fat

$C_{102}H_{196}O_{12}$
$-12H_2O$

C_{102} $102\ O_2$ $102\ CO_2$ energy
H_{164} $92\ O_2$ $92\ H_2O$ energy
4264 calories per pound

You can sell best

...and customer satisfaction "comes in Burlap!"

Have you ever added up the inducements you can offer when you sell sacked feed in burlap? They can help you in selling. Here they are:

1. *A discount* on every ton of feed, when the mill provides a return-bag program.
2. *Simplified inventory* for the customer.
3. *Identification* for medicated feeds.
4. *Non-separation* of formula-ingredients.
5. *Your prices* are competitive with returnable burlap bags.
6. *Service*...you can give small customers as good delivery service as large customers (and on the same route).
7. *Bulk customers* can be served with bag-to-bulk trucks.
8. *Quantities* can be bought *as needed.*
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10. *Accurate weights* are assured in a burlap bag.
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12. Farmers have many uses for empty bags...only burlap serves them so well!

Quite a few selling-points, don't you agree? Next time you're selling a new customer, remember there's a lot to be said for burlap bags!

Just ask your own customers—they'll tell you that burlap

Is strong — takes dragging, dropping, man-handling — any tough job on the farm.

Laughs at sudden showers — wetness or dampness can't weaken it.

Saves money — extra value from re-sale and re-use.

Gives good ventilation — keeps farm supplies and products fresh.

Saves storage space — stacks to any height without slipping.

Has 1000 uses — always in demand on the farm (popular with farm wives, too!)

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PUT GUARANTEED POTENCY RESULTS INTO YOUR OWN FEEDS AT LOW COST!

JERSEE VITAL-MIN HAS NEVER FAILED TO GIVE GUARANTEED POTENCY RESULTS!

Contains the necessary Vitamins, Antibiotics, Amino Acids and Trace Minerals to Vitamin Fortify your own feeds for just a few cents a bag . . . JERSEE VITAL-MIN makes your feeds better, brings you more satisfied customers.

CAF-SUPP The Calf Starter That Will Brighten Your Day!

Contains guaranteed levels of Vitamin A, Vitamin D and Aureomycin. Guaranteed feeding results.

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appreciable amounts of methane and other gases from the rumen as end-products of the bacterial fermentation. This energy loss may range from as little as 5% of the gross energy intake to as much as 20%. In part, the extent of the loss is determined by the nature of the feed and the rate at which it is fed. In the old TDN scheme of evaluating feeds, this energy loss was not accounted for in the calculations. Hence the reason for apparently low TDN yields from some roughage feeds.

This has been a brief, and I'm afraid somewhat sketchy outline of a complex subject. I have not attempted to place an energy value on specific feeds. This is not because I fear an end such as Lavoisier met but because it is my opinion that we lack the necessary experimental findings to compute the energy yields of the feeds in which you are interested. I commend the search for such information to your research staffs and state colleges. Firm energy values for the various feeds will make your feed manufacturing problems simpler and your profits greater.

California Exchange In Second Year

STOCKTON, CAL.—The Stockton Grain Exchange moved into its second year of service to grain growers, dealers and shippers throughout the West, after exchange president, Ivan Brown, sales manager of E. D. Wilkinson Grain Co., Stockton, was unanimously elected to a second successive term by the exchange's board of directors.

Mr. Brown emphasized the increasing importance to the California grain business of the Stockton Grain Exchange, which recently joined the National Grain Trade Council. He pointed out that in one year the exchange has acquired a membership stretching from northern California to Oregon, Nevada, Utah, Idaho, Texas, Kansas, Hawaii and Canada.

The exchange is a non-profit organization of western grain merchants, grain shippers and feed manufacturers. It was formed last year to serve the Stockton area—a region that has experienced the greatest five-year grain-handling growth of any comparable area in the U.S., according to Mr. Brown.

The exchange's president added that the first-year rise of the Stockton Grain Exchange from a small group of grain men to a membership of 146 companies testifies to the great need which has existed for such an organization in this area.

FIRE DAMAGES MILL

BROOKVILLE, IND.—Fire caused an unestimated amount of damage at the Franklin Supply Co. recently. Harry Applegate is owner of the feed and coal business. Firemen said the blaze may have started in the mill room in a pile of corn cobs. A grinder, sheller and a quantity of feed were destroyed.

Virginia Study Shows Use of Peanut Hulls in Beef Rations Possible

HOLLAND, VA.—Peanut hulls may have a use in rations for growing and fattening beef cattle, according to results of a two-year test at Holland by researchers of the Virginia agricultural experiment station.

The hulls, a by-product of the peanut milling industry, are of little market value and often pose a disposal problem to the shelling industry, say the researchers. Their use in beef cattle rations would help solve this problem.

The scientists concluded that peanut hulls similar to those used in the Holland tests are a satisfactory roughage for beef cattle when properly supplemented and constitute no more than 60% of the total ration.

For yearling cattle in the tests the addition of molasses to a fattening ration containing 40% peanut hulls increased total feed intake slightly but gave little difference in average daily gains.

In a test with weanling heifer calves, peanut hulls satisfactorily replaced hay in the ration. The animals fed peanut hulls ate more than those fed hay, but their carcass grades were lower. Average daily gains were 2.25, 2.16 and 2.06 for the lots fed rations containing peanut vine hay, peanut hulls and mixed hay, respectively. The researchers said there were slight differences in feed intake, average daily gains, carcass grades and dressing percentages, but that these differences were believed due to chance.

In a test with weanling steer calves, the peanut hull ration containing 60 percent peanut hulls was an excellent wintering ration, they said. It provided six pounds more concentrates per day than the limited concentrates and peanut vine hay.

A complete report on the study is available in Bulletin 501 of the Virginia agricultural experiment station, Virginia Polytechnic Institute, Blacksburg.

W. E. Guenther in New Merck Post

RAHWAY, N.J.—William E. Guenther has been appointed assistant to the operations and training manager in agricultural sales at Merck & Co., Inc., chemical division, Rahway.

W. E. Guenther

Mr. Guenther, who joined Merck in 1949, has served as a sales representative in Birmingham, Ala., since 1956. In his new assignment, he will work with John J. Linney, operations and training manager.

Mr. Guenther now lives at New Shrewsbury, N.J.

He received his bachelor's degree with a major in chemistry from Temple University, Philadelphia, in 1949. Mr. Guenther received a master's degree in business administration in marketing at Rutgers University in 1954.

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IN YOUR BUG-
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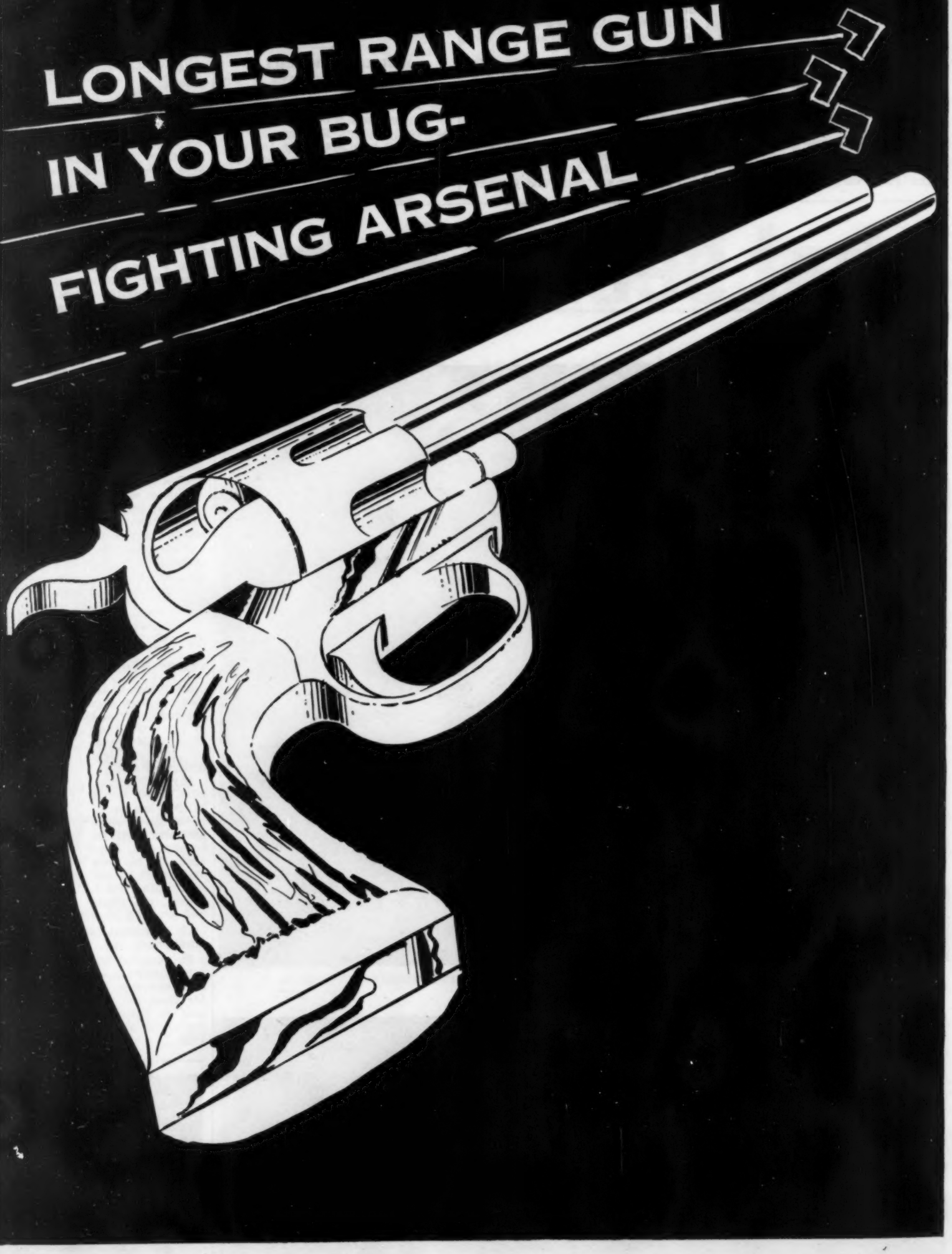


Tetrakote

protects stored grain for 12 months or longer

Now you can stop insects *outside* the wheat, corn and other small grains you have in storage.

Douglas TETRAKOTE, the liquid grain protectant, is a positive barrier to bug invasion *for up to one year or longer! TETRAKOTE'S* protective residual deposit stops infestation before it starts, not after the costly damage has been done.

It's easy to apply TETRAKOTE to the grain as it goes into storage. Or you can apply TETRAKOTE while you're turning the grain. When grain is resealed under government loan regulations is also a good time to TETRAKOTE.

Either way, you're getting long-term protection against bug infestation . . . a protection that is absolutely harmless to the eating, milling or germination qualities of the grain.

When the golden flood of this year's harvest comes your way, protect it right from the start with TETRAKOTE.

Grain Sanitation Division

Douglas Chemical Company

620 East 16th Avenue, North Kansas City, Missouri

F-9

JOE BROOKS

BY AL P. NELSON

An Employee Gets an Idea

The hammermill, the mixers and the pellet mill had been going all day long, with that steady noise of wheels, gears and shafts turning, which is happy music to every feed dealer. The noise means that machinery is processing farmers' grain and mill-supplied concentrate, and the more hours those machines keep working, the more earning capacity they have, and the more work-hours the fixed costs can be spread over.

Now, about 4:30 this hot summer afternoon, the machines stopped operating as the last customer drove off with his feed. Joe's employees took what is termed among sweating men "a fiver", meaning five minutes rest. They took a drink, chatted and generally relaxed, then set to sweeping and cleaning up the premises.

Milt Peters, the Lothario of the group so far as women were concerned, especially redheads, now strolled confidently toward Joe Brooks' office and entered.

"Joe," he said, "we sure produced a lot of tonnage through the mill for you today. The machinery isn't exactly red hot, but I'll bet they'd sizzle water a little."

The feed dealer laughed. He admired Milt's frankness on many subjects, but he did not admire Milt's tendency to come late and below par to work once in a while, due to the pressure of heavy dates.

Milt sat down and lighted a cigarette. "Joe, are you open for a business idea promotion session—five or 10 minutes?"

Joe smiled. "You know business promotion ideas are my weakness, Milt. Have you got such an idea?"

"It all depends," Milt grinned. "I don't know how you'll react to it."

"Okay, I'll reserve judgement."

Milt blew out cigarette smoke. "Joe," he said frankly, "you are just about the most important guy in this business, aren't you?"

Joe blinked at the question, looked startled, and Rusty Hagen, the runtish bookkeeper, smiled a little. Rusty liked a few jokes now and then to break the monotony of one stream of figures after another.

"Well, sometimes I wonder if I'm the most important guy around here," Joe said, "but at least I'm responsible for paying the salaries of all you men, and all the rest of the bills. And I've got most of my money tied up in this mill and equipment and stock—instead of having it in the bank drawing interest, with no risk. If you call that being important, maybe I'm it."

"Nicely said," Milt responded cheerfully. "You've made your point. But, Joe, your employees are important, too, aren't they?"

"Of course, Milt. You know how much I think of you people. I pay good wages, and my bonuses are not stingy. You know that."

"Granted, Joe. But if you think we're important, why don't you tell the world about it?"

Once more Joe blinked. "Tell the world about it! Why? How?"

Milt smiled. "Joe, you are passing up a good sales building bet by not featuring our handsome mugs in some advertising. Let the farmers know who we are and what we do—those farmers who don't know us by name, those farmers, too, who don't buy here and who might become customers. And, finally, cash in on our personal popularity by offering specials connected with the publishing of our pictures."

"Now wait a minute," Joe said. "Not so fast. You have a rapid fire mind, Milt. Let me get it straight. You want me to feature the pictures of employees in my ads and offer merchandising specials in connection with this publicity."

Milt Speaks Up

"I don't want you to offer us publicity, Joe," corrected Milt sweetly. "I offer you a business suggestion. For instance: Suppose you start out with a postcard advertisement, featuring Pop Henley. He's the oldest employee in terms of years. On that postcard you tell what Pop does and this is the week he's the Merchandising King at the store. You offer two or three specials. Call 'em 'POP'S

Willie Sterling says:

"Here's How Wayne Egg Feeds Give More For Your Money"

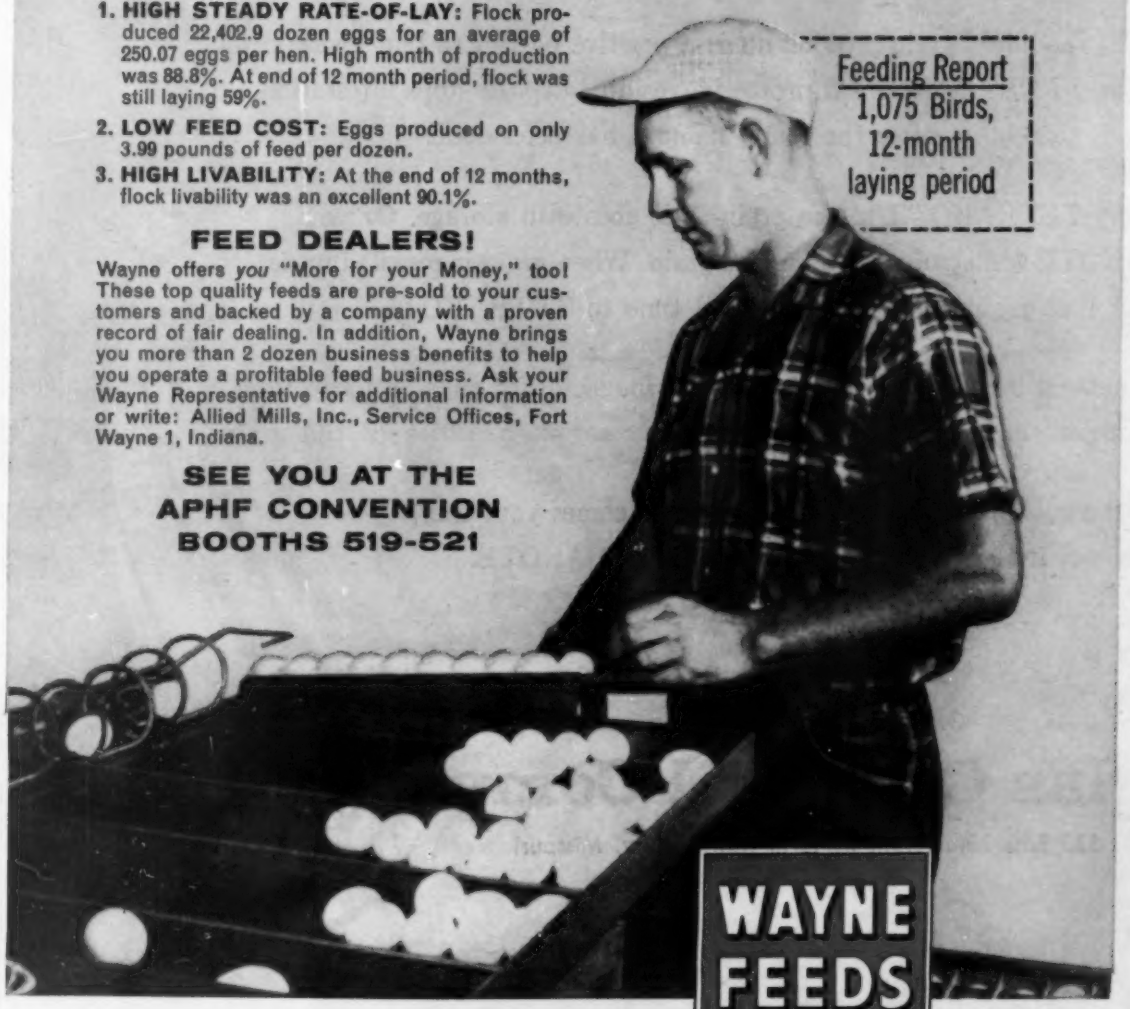
1. **HIGH STEADY RATE-OF-LAY:** Flock produced 22,402.9 dozen eggs for an average of 250.07 eggs per hen. High month of production was 88.8%. At end of 12 month period, flock was still laying 59%.
2. **LOW FEED COST:** Eggs produced on only 3.99 pounds of feed per dozen.
3. **HIGH LIVABILITY:** At the end of 12 months, flock livability was an excellent 90.1%.

Feeding Report
1,075 Birds,
12-month
laying period

FEED DEALERS!

Wayne offers *you* "More for your Money," too! These top quality feeds are pre-sold to your customers and backed by a company with a proven record of fair dealing. In addition, Wayne brings you more than 2 dozen business benefits to help you operate a profitable feed business. Ask your Wayne Representative for additional information or write: Allied Mills, Inc., Service Offices, Fort Wayne 1, Indiana.

SEE YOU AT THE APHF CONVENTION BOOTHS 519-521



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SPECIALS.' If the customer comes in and asks for them naming 'POP'S SPECIALS' and buys, then Pop gets a small commission, and the farmer gets his choice of a Pop giveaway."

"Such as what?"

Milt shrugged. "Oh, maybe a small screwdriver, or a key ring, or a corncob pipe, or a card holder for carrying the picture of a mother-in-law in the farmer's pocket all day long. This would give you a more personal flavor to your ads, and familiarize customers with the employees. All calculated to build traffic, interest and more sales."

Joe chuckled. "Milt, that actually is a good idea. It gives us a different ad appeal. And the customers who like a certain employee would come in special to buy when he is featured in an ad."

"They should," admitted Milt. "It is just my misfortune that my most ardent admirers are redheaded farm girls, and they usually leave the buying of feed to their fathers and mothers. If we sold something those farm girls could buy, you probably would have the biggest sales volume in one day you ever experienced."

"I'm sure of that," Joe said. "I can see that you have all angles of this deal neatly figured out."

"That's the scientist in me," Milt said philosophically. "I have always liked to think things out, to figure out the angles—all kinds. And, Joe, if these ads on employees appear, then farmers are going to think that here is a feed dealer who thinks of his employees, too, as well as of himself. He is no dealer whose only purpose is to make money—all kinds of it—for himself, and ignore the welfare of those who help him make it."

"Are you inferring that I ignore the welfare of my employees?" Joe asked, a hurt look in his eyes. "I always thought—"

Milt held up his hand. "Don't get me wrong, Joe. We are talking reasonable, man to man, not emotionally. I think you treat us very well. What I am saying is, that it's the impression, too, that you give the customers, that's important. They judge not only you, your products and your mill and your services, but they also judge you by the employees you keep!"

Joe smiled broadly. "Milt, you are right. I'll work out a direct mail policy like that. Thanks for talking so frankly. No feed dealer should be so wrapped up in himself, his mill and his business and his success, that he overlooks the importance of keeping up his employee relations. Right?"

"Exactly," smiled Milt, rising. "Well, I've got to be moving. It's quitting time, and I have a heavy date tonight. So long, Joe."

Phosphoric Acid Plant

CHICAGO—Plans for a new phosphoric acid manufacturing facility on Chicago's far south side have been announced by Victor Chemical Works. Rothe Weigel, president, said the new plant will be located on a 35-acre tract on the south bank of the Little Calumet River at 138th St.

The proposed facility will be Victor's ninth manufacturing unit. The first portion of the plant will be for the manufacture of phosphoric acid. It is expected to be completed early next year. A second phase, now under study by the company, will include facilities for making phosphates for industrial purposes.

Capacity of the new units will supplement Victor's plant at Chicago Heights where the company has had a production facility since its founding in 1896.

SWINE DAYS SCHEDULED

FAYETTEVILLE, ARK.—Hog men will have two chances this summer to get latest swine research findings first-hand from the University of Arkansas agricultural experiment station, according to Dr. John W. White, associate director. July 29 is the date set for the Swine Study Day at the main experiment station at Fayetteville. On Aug. 6 there will be a Swine Study Day at the northeast branch experiment station at Keiser. Preliminary program plans are to feature research topics centered around corn substitutes for swine, comparison of different antibiotics and high fiber rations for self feeding brood sows.

ANOTHER FEED MILL BY *Hogenson* . . .

AMES RELIABLE FEEDS, AMES, IOWA

This all-concrete, push-button feed mill was designed and built for Ames Reliable Feeds, Ames, Iowa. Equipment makes it possible for one man at a central board—and a very few men tending the machines—to produce each particular feed without handling. Charlie Barr (inset) is president of Ames Reliable Feeds. Let us put our experience in design and construction at your disposal.

★ ELEVATORS
★ FEED MILLS
★ SEED PLANTS
★ WAREHOUSES

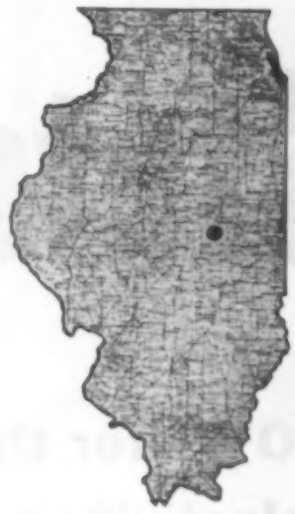
Hogenson Construction Co.

722 FLOUR EXCHANGE MINNEAPOLIS 15, MINN.

ILLINOIS OPERATOR REPORTS:

"My new SHANZER DRIER helped me to the best year I've ever had!"

Says, Wm. J. Henebry, Mgr.
Monticello Grain Co., Monticello, Illinois



Mr. Henebry continues:

"...deciding on a Shanzer grain drier has proved to be one of the most productive business decisions we've ever made . . . in the past year our Model 39 has not only delivered everything claimed for it, but even on the toughest, wettest drying jobs—normally considered questionable—it gave us fast, uniform drying results that were remarkable.

"We had heard from other operators about Shanzer's exceptional performance and safety reputation, but it takes day after day experience to see how much difference in driers there really is!"

WHY YOU GET MORE FOR YOUR DRIER DOLLAR WITH A SHANZER

Screen column design, found only in Shanzer driers, puts all the grain near warm air source for amazing drying uniformity and high capacity. No ledges to block grain flow.

Complete planning assistance is available from our fully staffed engineering department on drier layout, flow problems and special handling equipment.

Specialized manufacturing methods and equipment, backed by over 25 years of drier experience, assure the highest quality obtainable in grain drying machinery.

Custom fitted installation gives you maximum processing efficiency. All parts are die-punched for true erection and easy interchange. Every detail is permanently recorded.

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Designers and Manufacturers of Stationary and Portable Grain Driers, Bucket Elevators, Conveyors and Manlift Elevators

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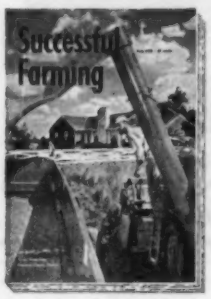
MR. AMSCO SAYS:

"For year around availability of premium quality meat & bone, fish meal and A and D oils, you can depend on Amsco."

American Mill Service Co.

116 PORTLAND AVENUE MINNEAPOLIS, MINN.

ANOTHER PUBLISHING ADVANCE FROM MEREDITH OF



Successful Fa
State and Regional E

NOW—for the first time—farm magazine quality and selectivity on the state level

From Meredith of Des Moines and America's newest, most modern publishing plant comes **new magazine flexibility** . . . new advertising and marketing opportunities to help national, regional and state advertisers make more sales to farm families in many of the richest agricultural states in the nation.

Effective with the January, 1960, issue, Successful Farming will be available to advertisers in 20 state and regional editions, with circulation deliveries ranging from 67,000 to 600,000—to 1,300,000 for the regular edition.

For the first time, localized advertising can have all of the important magazine values: editorial excellence and quality visual presentation . . . fine reproduction . . . full color . . . long life . . . augmented prestige . . . audience selectivity . . . efficient market penetration.

This means **better, more efficient selling** for the national or regional advertiser introducing new products state by state, or intensifying sales efforts in specific areas . . . supporting distributors on state-wide promotions . . . personalizing advertising by using dealer listings. It also makes quality magazine advertising available to manufacturers with limited distribution.

With 57 years of service, helping farm families earn more money, increase production and profits, live better in more comfortable farm homes, Successful Farming enjoys unusual prestige and influence—opens doors, heightens receptivity to advertising, makes sales. Advertisers now can have this important sponsorship **and at the same time** tailor their campaigns to solve local marketing problems.

Successful Farming farm families are among the best customers in the nation. For the past decade, they have averaged around $10,000 a year in farm cash income; $12,120 in 1958. Their farms average 336 acres with 11 permanent buildings. Throughout the great Central Valley —the 15 agricultural Heart states—SF's circulation parallels the distribution of prosperous, business farms. The greater the concentration of good farms . . . the more SF subscribers . . . the deeper SF's penetration.

No medium offers a better market—nationally, regionally, locally.

Providing advertisers with greater flexibility, a better, more effective medium for influencing the nation's best farm families, is another publishing advance from Meredith of Des Moines—America's biggest publisher of ideas for today's living and tomorrow's plans.

DES MOINES...

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20

Select the combination that meets your specific needs from these twenty different editions of Successful Farming:

Edition	States	Circulation*	B&W Page Rate
1	Iowa, Illinois, Indiana, Nebraska, Minnesota, Wisconsin	608,297	$3,955
2	Illinois, Indiana	218,956	$1,860
3	Iowa	128,670	$1,160
4	Minnesota	116,748	$1,050
5	Nebraska	67,646	$ 625
6	North Dakota, South Dakota	82,225	$ 760
7	Wisconsin	76,277	$ 705
8	Iowa, Illinois, Indiana	347,626	$2,780
9	Iowa, Minnesota	245,418	$2,085
10	Iowa, Nebraska	196,316	$1,720
11	Minnesota, Wisconsin	193,025	$1,690
12	Minnesota, North Dakota, South Dakota	198,973	$1,740
13	North Dakota, South Dakota, Nebraska	149,871	$1,350
14	Illinois, Indiana, Ohio	320,412	$2,565
15	Iowa, Minnesota, North Dakota, South Dakota, Nebraska	395,289	$3,065
16	Iowa, Illinois, Indiana, Wisconsin, Minnesota	540.651	$3,785
17	Illinois, Indiana, Ohio, Wisconsin, Michigan	464,985	$3,370
18	North Dakota, South Dakota, Nebraska, Kansas	217,241	$1,850
19	Iowa, Nebraska, Kansas, Missouri	339,268	$2,715
20	Middle Atlantic, New England	138,385	$1,245

*A. B. C., 12/31/58

For details call any Successful Farming office: Des Moines, Chicago, New York, Philadelphia, Cleveland, Detroit, St. Louis, Atlanta, Boston, Minneapolis, Los Angeles, San Francisco.

Stability in Cattle Prices Expected for Remainder of Year

WASHINGTON — Cattle prices have settled back from spring peaks and are expected to continue with relative stability for the rest of the year, it is noted in the U.S. Department of Agriculture's July Livestock and Meat Situation report.

At the same time, USDA points out that unless the rate of expansion of cattle herds is slowed down, cattle numbers and slaughter will become so large within a few years as to bring a major, severe, cyclical decrease in cattle prices.

Prices of both fed cattle and stocker-feeders in late June were a little below their spring peaks. Prices of choice steers were $2 cwt. less than at their high point in April, and prices of stockers and feeders had slipped slightly from their April-May high. All prices were at least equal to a year before, and prices of feeder calves were as much as $4 cwt. higher.

These small declines from spring peaks are primarily seasonal, USDA points out. A spring decrease in prices of fed cattle has been considered normal, although fed cattle prices no longer exhibit as regular a seasonal pattern as they once did. Marketings of fed cattle have been steady; receipts of steers at seven markets were almost unchanged at around 350,000 monthly from March through May. Prices of feeder cattle and calves normally decrease from spring to fall.

Softening of prices this summer could mean that the three-year uptrend is approaching its end. Most of the increase had been completed by late in 1958 or early 1959. No net further gain has been in evidence since, USDA comments.

Relative stability is likely to continue the rest of this year. Marketings of fed steers aand heifers will remain large. However, cow slaughter will continue small, as retention of breeding stock for expansion of foundation herds is in full swing and will not slow greatly this year. It is too soon to expect a major cyclical change in slaughter or price, according to USDA's report.

It is possible that slaughter of fed cattle will be reduced enough in late summer and fall that their prices will increase moderately. The quarterly report of cattle on feed, due for release July 16, will provide evidence on the forthcoming supply. From it the probable price trend to be expected will become clearer.

Prices of feeder cattle also may prove relatively stable, but some seasonal decline is more likely than an increase. Future condition of ranges and pastures will influence their trend.

Although slaughter of cattle may turn upward in the next year there is as yet little prospect that the increase will be great enough to retard the current rate of expansion of cattle herds.

Unless the rate of expansion is slowed down, USDA warned, cattle numbers and slaughter will become so large within a few years as to bring a major, severe decrease in prices.

The present build-up in herds is at an annual rate of 4 to 5 million head —at least twice the rate needed to keep pace with growth of population. Unchecked, it would definitely lead to over-expansion.

Slaughter of sheep and lambs decreased during May, and in early June was sharply below a year earlier. Prices of spring lambs strengthened; prices of shorn lambs, however, proved variable.

USDA went on to point out that as ranges probably will be no better than last year and may be poorer, while feeder buyers will be wary following their unprofitable season last year, the market for feeder lambs may be weaker than last fall.

Prices of lambs in general probably will average slightly below last year until late in the year. There is no reason to expect prices to decline in October-December this year as they did last year.

Ray H. Garvey Dies of Car Crash Injuries

WICHITA, KANSAS — Funeral services were held here July 3 for Ray Hugh Garvey, head of the world's largest private grain storage system, who died June 30 a few hours after being injured in a car-truck crash near McPherson, Kansas.

Mr. Garvey, who was 66 years old, headed the C-G-F Grain Co. which from its Topeka, Kansas, headquarters, operates close to 200 million bushels of grain storage space. Built within the last nine years, most of this storage is located at Topeka, Wichita, Salina and Atchison, Kansas; Lincoln, Neb., and at Ft. Worth, Texas. Recently the Garvey interests also have started or announced plans to build additional elevator space in Parnell, Kansas; Hastings, Neb., and in several North Dakota points.

Mr. Garvey originally entered the grain storage business in 1950 when he built 1 million bushels of storage at Topeka. From this start until recently his activities mainly had been confined to emphasis on the storage of grain under price support loans and for the Commodity Credit Corp. In the past eight months, the C-G-F staff has been enlarged considerably to permit the company to function as a grain merchandising firm, also. Managing partner of the C-G-F Grain Co. is H. Bernerd Fink, Topeka, Mr. Garvey's son-in-law. Ralph J. Crawford is general manager.

NEW GRAIN ELEVATOR

DAYTON, WASH.—A contract for construction of a 90,000 bu. grain elevator at an approximate cost of $80,000, has been awarded by directors of the Columbia County Grain Growers, Inc., to Harry George and Sons of Spokane. The new elevator, of concrete and steel construction, will be an annex to the present elevator. The unit will be constructed with a hopper bottom and will contain equipment to aerate the stored grain.

LIKE TOPSY . . . THEY JUST GROW

*We certainly won't attempt to explain the alarming growth rate that Topsy seemed to achieve . . . it's enough to say, "She just grew". To feed users, however, it isn't this simple. "Growth" is without question the most important element in livestock feeding. It is a constant source of study by manufacturers, colleges, experimental stations to arrive at the perfect feed balance to assure greater growth at a lower cost per pound.

These studies have revealed stimulating Unidentified Growth Factors that are found only in a meat and bone meal diet. They also show that 50% meat and bone meal provides: 32 times the calcium, 6 times the phosphorous, 2 times the riboflavin and niacin, 10 times the fat, and 1.14 times the protein found in substitute vegetable products.

Because of this greater knowledge, more and more feed manufacturers and millers are turning to meat and bone meal as their choice for protein in the practical balanced diet. It is easy to use, it is economical, it assures the right balance of proteins, and highest productivity. The feeder knows that this adds up to better conversion, lower cost per pound of weight gain and INCREASED GROWTH RATE.

Because the demand for feed with meat and bone meal is ever-increasing the wise feed manufacturer is switching to this source for protein. He gets better prices and more sales because they do more for the feeder . . . giving him greater profits through better results.

Whether you are large or small, you can use meat and bone meal easily. The mixing is simple and economical, since the meat meal is received pre-ground and ready to add, with other ingredients, to the feed.

Write for our free booklets that fully describe the benefits found in meat and bone meal. This valuable information will help you increase your sales and supply you with information to pass along to your customers.

nra national renderers association

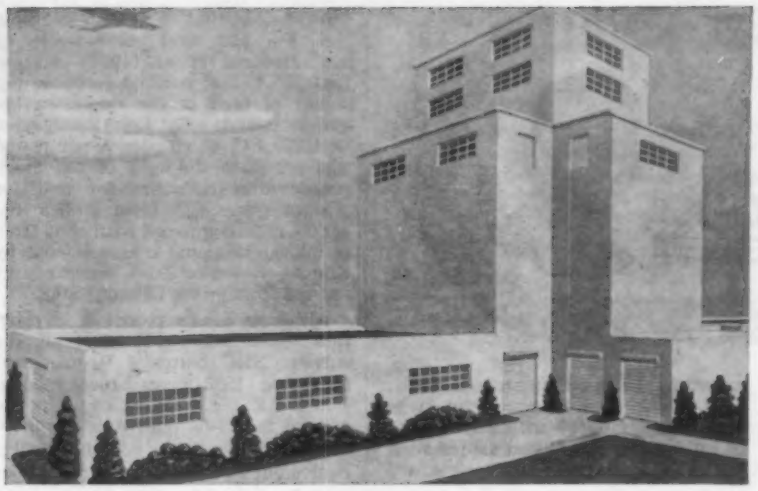
30 N. LASALLE ST. FRanklin 2-3289 CHICAGO 2, ILL.

THE 3 PURITANS

The Three Puritans symbolize the three CCC quarries—in Quincy, Illinois, Carthage, Missouri and Weeping Water, Nebraska—so called because of the high purity of the deposits.

Calcium Carbonate Company

520 South 4th St., Quincy, Illinois
Box 409, Carthage, Missouri
325 W.O.W. Bldg., Omaha, Nebraska



NEW MILL—Shown is a drawing of the new mill being constructed by the Garden City, Kansas, Co-op Equity Exchange. Completion is scheduled in about six months.

New Mill Being Built in Kansas

GARDEN CITY, KANSAS—A new $380,000 feed mill, being built by the Garden City, Kansas, Co-op Equity Exchange, is scheduled for completion in about six months.

The new mill will have 70 grain storage bins with a total storage capacity of about 1,500 tons, and is expected to produce about 20-24 tons of mixed feed per hour. It will mix 10-15 tons of molasses feed an hour, and will have a pelleting capacity of 10-12 tons an hour. A grinding capacity of 8-12 tons an hour is expected.

Some 700 bu. of grain an hour can be run through the rolling mill equipment, in addition to grinding, pelleting and mixing operations. The plant itself will be 110 ft. high, and the floor plan will be 72x128 ft. There will be a double driveway, one for loading out bulk material, and the other for receiving—at the rate of 3,000 bu. an hour.

"It will be a modern, push-button type mill with one objective—to be efficient and to produce the most amount of feed for the least number of man-hours," according to George Voth, Jr., general manager of the cooperative.

Besides the feed mill, modern seed cleaning equipment will be installed which will include a set-up on custom basis, according to Mr. Voth.

Mr. Voth said that many of the co-op's 2,400 members are thinking about large, cooperative livestock feeding projects as a result of the new mill. "We have no definite plans yet," he said, "but we certainly are keeping open-minded about these possibilities. There has been some discussion about it."

Eugene Maurer, Montezuma, Kansas, a Kansas State feed technology graduate, has been hired by the co-op to help get the mill into production. He has had experience with milling operations at the university and with an industrial research farm.

The new mill and seed plant is said to be "one of the biggest steps taken in the history of Southwest Kansas farming to bring processing nearer to the farmers' feedlots."

ELEVATOR ADDITION

CLEAR LAKE, MINN.—The Farmers Elevator at Clear Lake is building an addition. The new 50 ft. high building will house scales, an office and storage bins for feed mixing. Grinding and mixing machinery will be in the basement.

Named Wirthmore Dairy Representative

WALTHAM, MASS.—Gerald Newcombe, former county agent for New Haven County, Conn., has been appointed dairy service representative for Wirthmore Feeds in southeastern Massachusetts and Rhode Island.

Gerald Newcombe

Brought up on a dairy farm, he graduated from the University of Vermont, before specializing in dairy service work.

He is married, has two children, and at present resides in Hingham, Mass.

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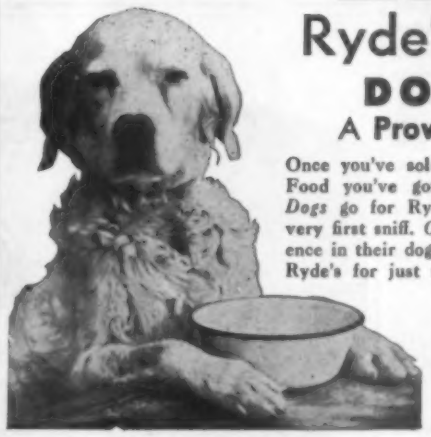

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

The Vitamin A Requirements of the Young Pig

● D. L. Frape, V. C. Speer, V. W. Hayes and D. V. Catron, Iowa Agricultural Experiment Station; The Journal of Nutrition, Vol. 68, No. 2, June 10, 1959, pp. 173-187.

ABSTRACT

Two years' experiments using 220 pigs were conducted to determine the vitamin A requirement of the young pig up to eight weeks of age. This was done because early weaning precludes the sow as a source of the vitamin, at least to some degree. The response to the experimental diets was measured by blood plasma and liver vitamin A levels, weight gains, feed efficiency, cerebrospinal fluid pressures and gross clinical and histological symptoms. In general, the following conclusions seem to be warranted:

(1) Little maternal carryover of vitamin A to newborn pigs in the experiments was probable since all mature crossbred sows were fed a vitamin A-low ration from shortly after breeding until the weaning of the pigs at one week of age for experimental purposes.

(2) Although the maternal depletion ration produced a marked effect upon the vitamin A content of the colostrum and upon the liver storages in the young pigs, the influence of the deficient ration was much less apparent upon the carotene content of the colostrum.

(3) In the two earlier experiments conducted during this investigation it was difficult to detect vitamin A deficiency symptoms before four weeks of age. However, in the last experiment it was possible to detect differences in growth rates before four weeks of age.

(4) One of the most striking deficiency symptoms observed was an acute paralysis of the hind quarters, particularly in those pigs which maintained a fairly rapid rate of gain. The condition was most often noticed about 7-8 weeks of age. Food consumption appeared to continue during the condition and massive oral doses of vitamin A brought about cures in many cases after eight weeks of age. Deaths from the paralysis were rare even when the pigs were left in that state until 15 weeks of age.

(5) The minimum point of normality of vitamin A levels was most easily detected in the spinal fluid pressure response, although the plasma response gave slightly more precise values as measured by the lambda value of Bliss. Weight gain was inconsistent since its maximum point varied considerably between experiments.

(6) Liver response could also be considered a very accurate measure of dietary adequacy in the pig.

(7) Although normal weight gains were seen on diets as low as 100 I.U. per pound of feed, considering all of the experimental evidence a minimum requirement for the young pig was judged to be approximately 800 I.U. per pound of feed. This requirement is based upon complete utilization of the vitamin from a stabilized source such as vitamin A palmitate on a dry carrier.

COMMENT

Work to be reported later by the Iowa group suggests that the requirement for 14-week-old pigs is somewhat below that of the 8-week-old pigs. For pigs over eight weeks of age, Hentges et al (1952) suggest that 475 I.U. of purified carotene per pound of feed is the minimum required. Braude et al (1941) suggested that 250 I.U. of vitamin A per pound was adequate. In light of the much poorer utilization unit for unit for pigs of vitamin A from alfalfa and yellow corn compared with that from stabilized vitamin A as reported by Kansas workers (1957), these results are not conflicting or surprising.

Although a new report is in progress to be published this year, the current NRC Nutrient Requirement for Swine (1953) gives a recommendation of 0.25 mg. of carotene per pound of feed for 25-lb. pigs. A level of 400 I.U. of vitamin A per pound of feed is equivalent to 0.24 mg. of carotene per pound of feed on the basis of 0.6 microgram = 1 I.U. It becomes apparent, at least on the basis of the Iowa work, that increased levels are necessary in young swine if early

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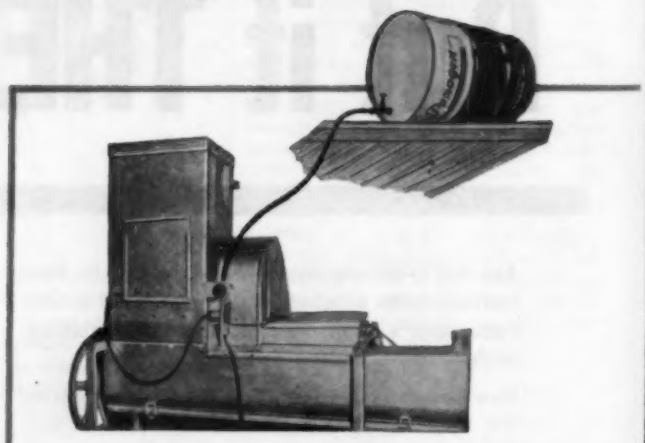

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weaning is to be practiced. Manufacturers of weanling feeds and creep feeds should carefully consider this work from Iowa in their formulations.

●

Timely and Worth Noting

EFFECT OF FEEDING N,N'-DIPHENYL-PARA-PHENYLENEDIAMINE (DPPD) TO LACTATING DAIRY COWS ON THE PRODUCTION OF BUTTERFAT; R. Teichman and B. A. Doherity, Storrs Agricultural Experiment Station; Journal of Dairy Science, Vol. 42, No. 5, May, 1959 (Technical Notes), pp. 874-876.

It has been previously observed in three out of four experiments by the Connecticut group, that when DPPD was included in the ration of milk cows for the purpose of inhibiting copper-induced oxidized milk flavors a slight increase in butterfat percentage was also seen.

Because of fairly poor control in the previous experiments it was thought desirable to critically evaluate DPPD additions in an experiment in which cows were fed equivalent energy. Twelve cows (two Ayrshires, six Holsteins and four Jerseys) were paired according to breed and, as far as possible, with respect to age and stage of lactation. The average daily intake of DPPD by cows during the two-week experimental periods of DPPD supplementation was 1.4 gm. per cow per day. The experiment was of the double-changeover design with two sequences.

No response was secured by the DPPD supplement (0.01% of 90% dry matter ration) with respect to milk produced, butterfat per cent or daily yield of pounds of fat or fat-corrected milk.

The authors cannot explain why, under conditions of controlled feeding as used in this experiment, no response was secured in butterfat percentage as compared to a slight increase in most experiments previously conducted under ad lib feeding conditions. However, the relatively short experimental periods used may have been too short to measure the degree of response sought.

The work by this group is very interesting but somewhat academic since DPPD is outlawed by the Food & Drug Administration as a feed additive. Something more practical and to the point: Does Santoquin or other antioxidants have possible similar effects?

Theme Announced for Soybean Convention

HUDSON, IOWA—The theme for the 39th annual convention of the American Soybean Assn. Aug. 10-12 will be "The World Needs More Soybeans," it was announced by George M. Strayer, association executive secretary.

The convention will be at the Hotel Sheraton-Jefferson in St. Louis. On Aug. 10, immediately preceding the convention, the National Soybean Processors Assn. will hold its annual meeting in the same hotel.

Firms serving the soybean industry will have exhibits at both meetings.

Commenting on the theme, Mr. Strayer pointed out that the soybean crop last year totaled almost 600 million bushels, and that there may be a carryover this year of 60 million bushels. On the other hand, he noted, the large part of the world population is hungry, and is particularly short of fats and proteins, the two chief products of the soybean.

He said an increasing part of the soybean crop and its products is being shipped abroad, and that the world market is of growing importance to the industry.

William Walker

William McKeon

STAFF CHANGES—William Walker has been named director of consumer products for Hales & Hunter Co., Chicago, manufacturers of Red Comb-Pioneer feeds, according to an announcement by William H. Garvey, Jr., executive vice president. Mr. Walker was previously director of account sales. He has been replaced in that position by William J. McKeon, formerly account sales manager for Red Comb-Pioneer Mills at Cartersville, Ga. and Lexington, Ky.

Firm to Use New Grain Temperature System

MAUMEE, OHIO—A new grain temperature system will be installed in the new 10 million bushel grain storage addition of The Andersons, Maumee, it was announced by Donald Anderson, partner in the firm.

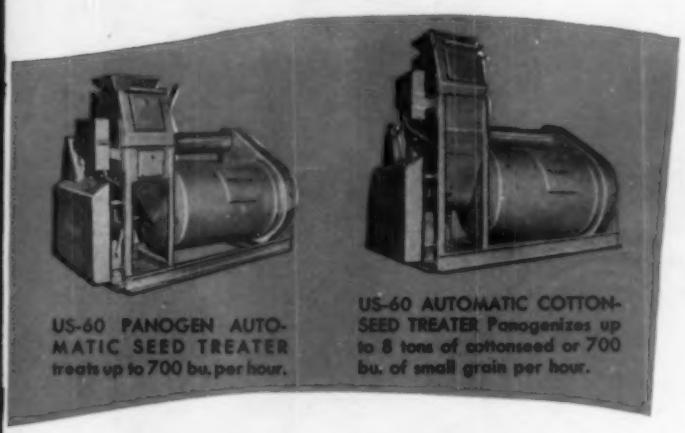
The system will be installed in 22 Sapulpa steel tanks, 114 ft. in diameter by 44 ft. Contract for the job has been awarded to Rolfes Electronics Corp., Boone, Iowa.

The system will utilize 25 cables in each tank. There will be 4,990 ft. of lead wire and 22 ft. of "remote control switching units."

The system is the Rolfes "Aro" automatic scanning with "digital lights" which show the exact cable and thermocouple number being read. A feature of the system is the automatic typewriter which, in working through the "Aro," types the temperatures of every thermocouple in the 550 cables. The printing of the temperatures will be made on a continuous sheet for permanent records of the grain's temperature.

M. P. Miller Co. Sold

MOSCOW, IDAHO — Holdings of the Mark P. Miller Co., a unit of Terminal Flour Mills Co., Portland, have been purchased by the Latah County Grain Growers Inc. Included were the warehouses, elevator and flour mill, as well as the storage facilities at Seabarry near Tekoa, Wash.



US-60 PANOGEN AUTOMATIC SEED TREATER treats up to 700 bu. per hour.

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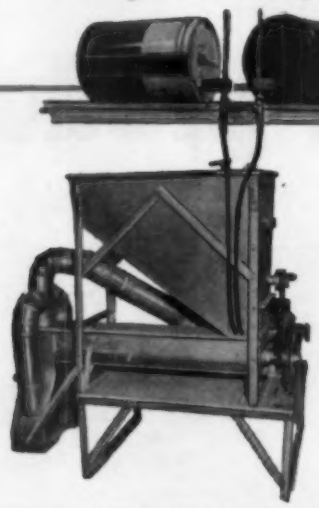

Panogen Dust Treater Conversion Kits can be used with any standard commercial dust-type seed treater or with any spiral auger. Kit No. P-8 converts dust treater to apply Panogen, Kit No. D-18 to apply Drinox. Liquids are gravity fed by polyethylene tubing to the dust treater. No alterations of dust treater are necessary . . . just one simple adjustment to calibrate dosage of Panogen or Drinox to flow of grain will assure you of efficient treating.

The above installation is located at the B & B Grain Company, Spearman, Texas. This is a US-60 Panogen Automatic Seed Treater equipped with triple reservoirs and slurry adapter. Two reservoirs permit application of Panogen fungicide and Drinox insecticide separately . . . but simultaneously. The other, connected to the slurry adapter tank (center bottom) holds the slurry mixture, converts the liquid treater to slurry treating. This is fully automatic "push-button" treating. B & B can treat up to 8 tons of cottonseed or 700 bushels of grain per hour . . . efficient seed treating with modern equipment.

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Mississippi Community Continues as Major Factor in Broiler Business

By JESS BLAIR
Feedstuffs Special Writer

MORTON, MISS.—Despite the recent extended period of low prices, this town of 2,500 population is still said to be one of the two largest broiler growing centers in the nation. Approximately 6 million broilers are being fed in the immediate area, and most of the houses are filled to capacity.

The main reason for this, industry spokesmen say, is that the broiler growers have reached a new peak in efficiency. Many birds are being pushed to selling weight of from 3.15 to 3.85 lb. in eight to ten weeks of age, and they are putting on a pound of flesh for no more than 2½ lb. of feed.

"There's more experience here than in some broiler areas," said Billy Armstrong, owner of a poultry supply company. "They have not been making a profit recently, but they haven't been losing much, either."

The nucleus of Morton's broiler industry was started over 20 years ago by B. C. Rogers, who is presently feeding out over 3 million birds, and is considered one of the largest producers in the world. Other men entered the picture, and now there are four contractors who control all the birds grown near Morton.

Besides Mr. Rogers, the three others are Cecil Payne, Fred A. Moore and the Morton Broiler Farms. Together they have another 3 million broilers on feed.

"Prices have been at bottom," said Fred Moore, "but we've been in this game a long time and have seen these low prices before. You can't quit, so we try to hold down expenses as much as possible and wait for the market to go up again."

Two Plans

Broilers in this area are grown under two plans—one is the integrated contract with the area farmers, while the other is where the contractor owns a farm and grows many thousands on it by hiring all the labor done. Caretakers under this latter plan are usually furnished housing and are paid by the week.

The largest number of birds are raised by farmers who work under the supervision of the companies. Each farmer furnishes the broiler houses and equipment, which he may have secured through credit at the beginning. The company furnishes baby chicks, feed, medication, supervision and does all the hauling.

When the birds are sold, the farmer receives his pay in accordance with the number of pounds of meat as compared to amount of feed used. One contractor gives the producer 2¢ per pound of meat if it has been produced for 2½ pounds of feed. Above or below this changes the rate of payment, which is an incentive for the producer to do a good job of managing.

Grower size has increased considerably. Now the average farmer is feeding 25,000 birds or more. As farm income deteriorated, many small land owners began concentrating on chickens and de-emphasized row crop farming.

Mr. Armstrong says the average family income from tending broilers now averages around $3,000 or more per year. In addition, most farmers keep a small herd of cattle and hogs and grow some field crops.

Several large trucking firms are kept busy hauling corn from Illinois and Indiana, though an increasing amount is now being grown in Mississippi. The corn is shipped in as whole grain, then ground and mixed with concentrates in the mills which the four integrators own. All feed is handled in bulk form.

One to two men can keep a mill in operation while one other is used in hauling. Chicks and finished broilers are also hauled in large trucks.

Mr. Armstrong says the four contractors use a possible 24,000 tons of feed a week, though it may be slightly more during the winter months.

Chicks are started on a ratio of eight parts concentrates to 12 parts corn, but at about seven weeks are put on a six to 14 ratio.

Some of the contractors own their own processing plants, while others sell to plant owners. But all four have their own hatcheries. At present there is a noticeable trend toward establishing breeder flocks, also on contract, so that hatching eggs will be available.

"The greatest thing about our broiler industry," said Mr. Armstrong, "is the economic boost it brought to the area. Cotton farming was slowly disappearing and the town was dying. This has brought in outside money, furnished jobs for people and put Morton back on the map."

Des Arc Expanding

DES ARC, ARK.—The Des Arc Grain Drying Co-operative Corp. is completing a $500,000 expansion of its facilities here. Officials said new dryers have been installed to increase the soybean storage capacity to 430,000 bu. and the rice storage to 350,000 bu.

NEW FEED BUSINESS

ABILENE, KAN.—The Abilene Co-operative Assn. is a new business here with 190,000 bu. of grain storage, a feed-mixing plant and a warehouse.

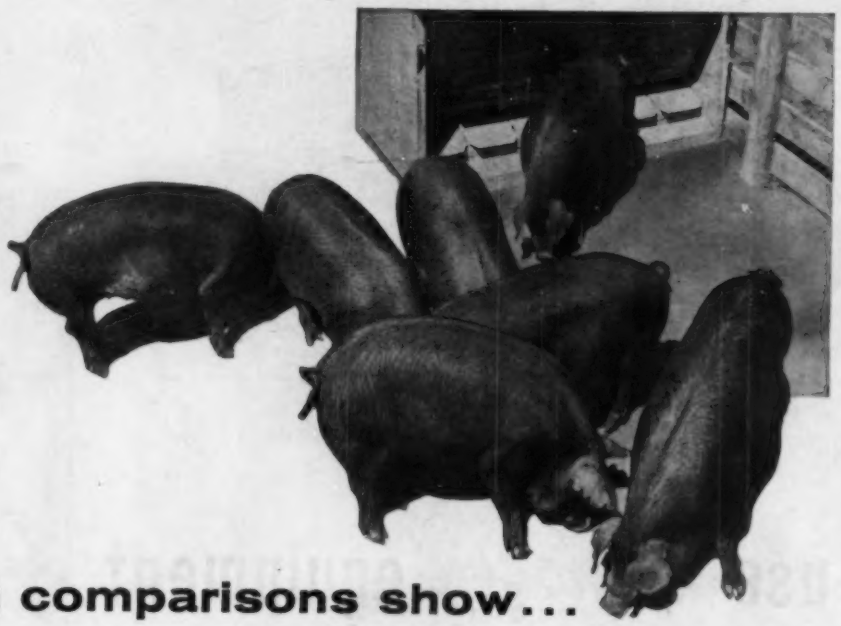
Experience With Auctions Brings Out Many Comments

"The buyers will soon learn who is producing the best broilers, and the fellow who is turning out inferior birds will be penalized in the bidding."

Speaking was Alvin Butler, Scottsboro, Ga., director of the new Alabama Poultry Exchange which expects to have its first auction by Aug. 1 and is one of at least five such exchange groups which have sprung up in the South in recent months, starting with the one at Gainesville, Ga.

Mr. Butler continued: "Once he (the grower) gets a reputation for carelessness, he will either improve his methods or be by-passed by the processors. We (the auction) expect to create better growing methods and more uniformity."

Experiences with poultry auctions have produced many comments such as those made by Mr. Butler. Time



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*Jordan, C. E., J. H. Conrad and W. M. Beeson, Purdue University Agr'l Exp. Station Mimeo A.S. 238 (Final Report), November, 1958.

**5 Gms. Chlortetracycline, 7.5 Gms. zinc bacitracin, 2.5 Gms. penicillin and 5 Gms. oxytetracycline.

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- F-401—PRO-GEN® (Arsanilic Acid) for Swine Feeds.
- F-402—PRO-GEN® (Arsanilic Acid) for Pullet and Laying Feeds.

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has shown that the auction has an important place in the poultry industry, especially where broilers are concerned.

Auctions, it's been said, provide a common meeting place for processors and growers, and they provide an incentive for growing higher quality birds.

Quality is controlled because growers must notify the auction company before the sale how many they are offering and approximate average weight of the birds. Also, flocks are inspected before sale time. Buyers not known by auction officials are required to post bond unless their credit rating is known.

There are incentives for prompt handling after sale, too. The Alabama exchange, for instance, requires that the grower and buyer must decide who is to haul the birds after sale, what kind of scale is to be used and, in some cases, what bonus is to be paid for quick removal of birds after sale. An eighth of a cent per pound has been mentioned as a bonus payment to save the seller feeding the birds after they are sold.

Milton Trawick, Hickory, N.C., recently reported that the North Carolina Poultry Exchange would guarantee processors quality birds, a choice of sizes and a more stable market. There would be tight penalties, he said, on low quality producers. Selection of a site for the North Carolina auction has been postponed until processors have made their wishes known.

North Georgia broiler producers are hoping that the Gainesville auction will help them out of the economic morass created by months of low prices.

Al Gibson, executive secretary, Georgia Poultry Federation, commented recently that poultry people "are the most optimistic alive" and are pleased with what the poultry auction is doing for them.

Only nine weeks after it was started, the Gainesville auction was reported handling 20-25% of Georgia's wholesale broiler sales.

Rathbun Sales Winners Honored

WALTHAM, MASS. — Bob Kirgis and Jim Wade were honored recently at a banquet, attended by Wirthmore Feeds, Inc., representatives and personnel of the seven R. L. Rathbun Feed & Grain Co. elevators, for winning Rathbun's "Beans or Steak" chick starter sales contest.

Mr. Kirgis is manager and Mr. Wade is millman of the Rathbun elevator at Carrothers, Ohio. Mr. Kirgis said he increased sales most by installing a hopper scale that he made out of an old platform scale and parts of a grain combine, and by putting in a live display consisting of five laying hens in cages.

One elevator came up from the rear into third place in the last three days by loading up a pickup truck with chick starter and "peddling" it door to door.

Letters to the Editor

'Fireside Egg Coffee'

Philadelphia, Pa.

To the Editor:

Recently I read a full page advertisement announcing a new product, namely, "Fireside Egg Coffee." I quote from the advertisement:

"Your First Pound of the New Ready-to-Brew Egg Coffee!

"Discover how whole, fresh eggs already added to the world's finest coffee coax out the wonderful hidden flavors!

"Egg works its magic best in Fireside Coffee because it brings out the subtle flavors of the finest blend of coffees that can be put together regardless of price—aged coffees accented by rare, mountain-grown varieties. The egg achieves clarity and mildness . . . eliminates any chance of bitterness. The result: You get full, complete coffee flavor . . . coffee that's smoother, more enjoyable . . . coffee with clear, brilliant character.

"Genuine egg coffee has always been considered a complicated delicacy, but now, with Fireside Egg Coffee, it's as easy and inexpensive to make as plain coffee. No need to whip, beat, mix or blend eggs with coffee or water . . . no involved recipes to confuse you. Fireside is ready to brew! You save fuss and muss . . . save the expense of adding an egg to every potful . . . save, too, because it takes less of the world's finest blend of coffees to make the world's best cup of coffee! Prove to yourself it's really true—fresh egg in coffee makes the perfect brew!"

I thought you would like to know about this new product in which eggs are used, and for this reason we should support this enterprise.

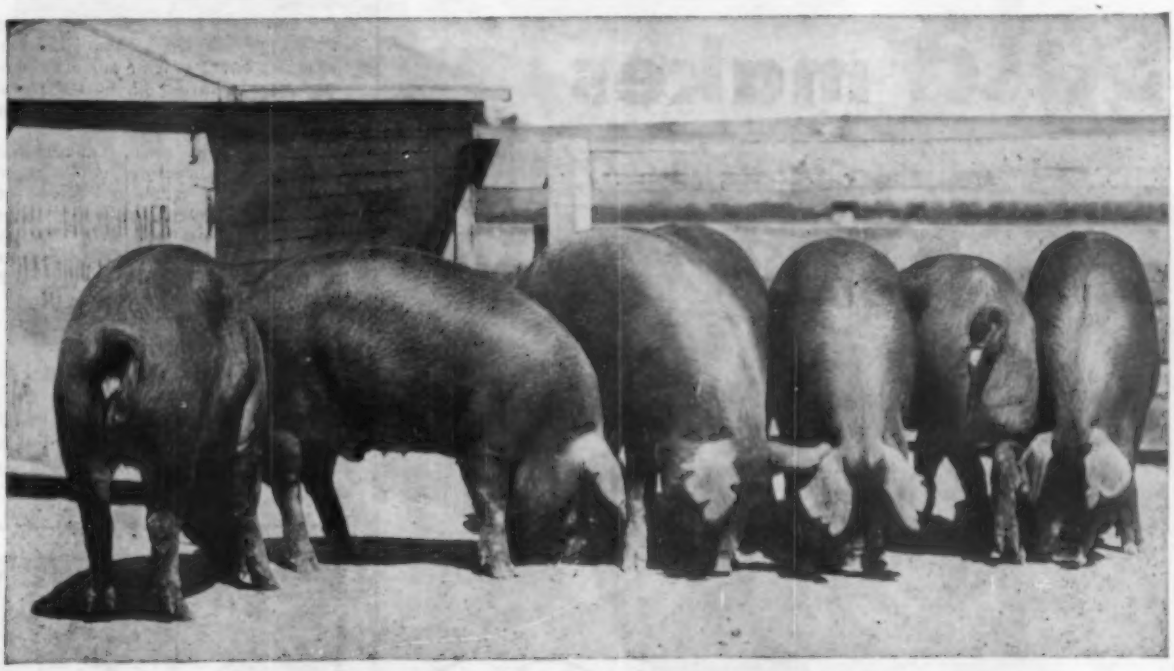
The advertisement helped to lighten the stress we have experienced as a result of the catastrophic situation with the low prices of eggs to egg farmers.

Fireside Egg Coffee is a new boon to our egg industry. I pledge not only to become a customer but to instruct all my field personnel to spread the news about Fireside Egg Coffee to their numerous contacts relative to our industry.

I am certain that Fireside Egg Coffee will be happily received by American housewives and their families, and find a comfortable nook in the average cupboard.

Samuel M. Golden, President
The Amburgo Co., Inc.

EDITOR'S NOTE: Fireside Egg Coffee is a new product of Livingston Coffee Co., Chicago, and is being distributed through retail outlets in Chicago; New York City; Syracuse, Utica, Watertown, Binghamton and Elmira, N.Y. Keyes, Madden & Jones, advertising agency handling the account, reports that other markets will be added as the retail sales position is consolidated.



the most economical weight gains!

"Arsanilic Acid produced the most economical gains." That's how Purdue University swine specialists described the effectiveness of Arsanilic Acid following the second year of hog feeding comparisons with several antibiotics and another arsenical.

For the second straight year, Arsanilic Acid proved to be the most efficient, best performing growth stimulant in the 90-day practical feeding tests.

In the 1958 feeding, pigs receiving Arsanilic Acid in their basic farm ration produced gains for about 9¢ per pound to market weight. This included the cost of adding Arsanilic Acid to the basic ration. These 9¢ gains were the lowest-cost of all lots by far. They resulted from a combination of faster daily gains and better feed efficiency than any other lot.

Effective in Supplements and Concentrates: Arsanilic Acid in your supplements, concentrates or complete feeds will give them the "punch" they need when it counts most. It can give such outstanding results because of its *low-cost and proved effectiveness.* Hogs make better use of their feed . . . make thriftier gains all the way to market time.

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YELLOW SPRINGS, OHIO

Need for Higher Egg Quality Stressed At NEPPCO Session

TRENTON, N.J.—The egg industry's failure to develop "ever higher standards of quality" and the "grossly exaggerated" threat of southern competition in eastern city markets were two of the salient points made by speakers addressing the business management conference of Northeastern poultry and egg marketing cooperatives held here recently under the sponsorship of the division of cooperatives, Northeastern Poultry Producers Council.

Cooperative representatives were told that if Northeastern egg producers "play their cards right," they can step up egg consumption in the region and stave off the threat of losing their markets to the South and Midwest.

Charles Ackerman, editor, Modern Grocer, said: "The industry's failure to develop ever higher standards of quality has been a primary force in lagging consumer egg use." He warned that shortcomings in servicing stores with a high-quality, uniform package, and in merchandising education and aids has hurt egg sales. Private store labels are on the way out in the egg field, he declared, and must be replaced by the industry's own branded and advertised eggs.

Dr. John C. Huttar, Cooperative G.L.F. Exchange, told the conference group that the threat of southern competition in eastern city markets has been grossly exaggerated. He conceded, however, that eastern poultrymen and their marketing cooperatives must cut costs and boost quality if consumers are to continue to pay the traditional 2@6¢ premium for nearby eggs.

Management problems of cooperatives were discussed also during the two-day meeting. Speakers outlined ways and means of achieving better co-op employee relations. The promotion of poultry and eggs by the Poultry & Egg National Board was described by Lloyd Geil, PENB's general manager.

Firms Incorporate

LITTLE ROCK, ARK.—Two Arkansas poultry firms have filed articles of incorporation with C. G. Hall, secretary of state, here. They are Dodgen's Turkey Hatchery, Inc., Ozark, and The DeQueen Poultry Co., Inc., DeQueen.

Dodgen's was authorized 5,000 shares of no par value stock and listed $300 paid-in capital. Incorporators were Harold and Mary Thula Dodgen and Jeta Taylor, all of Ozark. Harold Dodgen was named as the firm's agent. The corporation said it would operate a turkey and chicken hatchery business.

The DeQueen firm was authorized 400 shares of no par value stock and also listed $300 paid-in capital. Incorporators were Dale Claus, Robert A. Grimes and Eldon Risser, Denver, Colo. Agent was listed as Cecil L. Gingerich, Hot Springs, Ark. The company said it would engage in a general poultry business.

Hard Crushed Alfalfa Put on Plastic May Allow One-Day Haying

ITHACA, N. Y.—Subjecting alfalfa hay to a hard crush and placing it on a black plastic strip for drying may open the way to haying in one day. This was reported by Dr. W. F. Buchele and T. T. Pederson, agricultural engineers at the Michigan State University agricultural experiment station, before the American Society of Agricultural Engineers at Cornell recently.

"By inserting a vapor barrier between the soil and the drying hay," the scientists said, "the effect of evaporation from wet soil was eliminated and the time necessary to dry the hay to storable conditions was reduced.

"When black polyethylene was used as a vapor barrier, it also absorbed radiation energy. The surface temperature was raised 40° F. This helped speed drying," according to the engineers.

"Results of the study indicate that hay mowed before 10 a.m., conditioned with a hard crush and placed on black plastic sheets, will dry to a storable moisture content of 20% before 4 p.m. and may be harvested the same day," Dr. Buchele and Mr. Pederson concluded.

FEED MILL OPENED

FERGUS FALLS, MINN. — Hall Feed Mills, Inc., was opened recently in Fergus Falls. The firm has a grinding and mixing service, a complete line of Purina chows and sanitation supplies.

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PURDUE SUPPLEMENT A:		
With Soybean Oil Meal	$21.75	+$ 6.44
With Linseed Oil Meal	$22.00	+$12.00
With Cottonseed Oil Meal	$21.50	—$ 0.12
With Soybean Oil Meal and 5% Urea	$22.00	+$11.77
With Linseed Oil Meal and 5% Urea	$22.50	+$23.36

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The micro-prills are sized and shaped to blend properly with other ingredients — to mix and *stay mixed* in your feeds.

No other feed-grade urea can match these handling qualities. That's why it's a cinch to formulate livestock feeds with Sohio Feed Urea the year 'round. And you save by replacing high priced protein meals with a minimum 262% protein equivalent (42% N).

Important, too, the Sohio plant at Lima provides a year 'round dependable source of supply. Call the "Man from Sohio." He'll explain Sohio service, whether rail or truck delivery, or plant pick-up at Lima. And he'll show you the additional savings of handling Sohio Feed Urea in bulk.

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What Farmers Think of Feed Dealers

"Broiler contracting suggests that the local feed dealer has some new public relations problems to meet."

By Ron L. Pitzer, Everett M. Rogers, P. C. Clayton and W. R. Luckham
The Ohio State University
Columbus, Ohio

"The feed dealer is a legitimate robber."

This was the remark of one Meigs County, Ohio, broiler grower in response to the question, "How do you think farmers feel toward feed dealers?"

The question was asked as part of an Ohio Agricultural Experiment Station study on contract broiler growing. Forty of the approximately 60 commercial broiler growers in Meigs County, Ohio, were interviewed in September, 1958. This was a cooperative study between rural sociologists and marketing economists.

Personality More Important Than Product—"Dealers have to be 'good guys,' for they are competing with personality just as much as products. The dealer is patronized primarily for his personality, secondly because of product."

This statement of a Meigs County broiler grower summarizes the feeling of many farmers. The competition between feed dealers is fierce with the increasing trend toward fewer and larger farms. The loss of one customer in an area of large commercial farms can mean a great financial loss to the dealer. This means that feed dealers today must consider not only the quality of their feed, but also the service offered and the personalities of the salesmen and servicemen.

Another Meigs County broiler grower said, "There isn't a nickel's worth of difference between the feed of the major companies today. So, I go to the guy who treats me best."

The comment of a Meigs County feed dealer also emphasizes the importance of personality in the feed business today. "I have begun to chew tobacco since I've been selling feed. I don't like the stuff, it's a dirty habit, but I must be like the farmer in order to maintain my feed sales."

Another dealer described the importance of employing pleasant feed deliverymen in this manner, "It's not just a feed delivery; it's a social call."

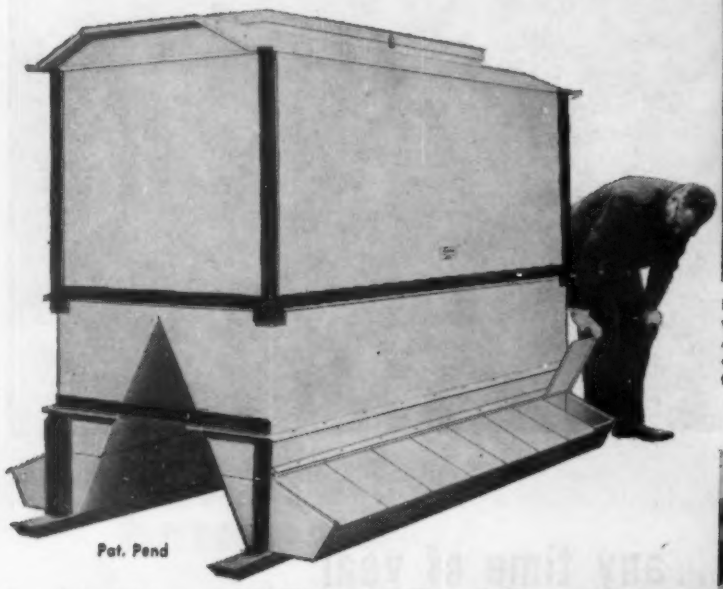
Farmer Attitudes Toward Feed Dealers—The broiler growers included in this study had, in general, a slightly unfavorable attitude toward feed dealers. Those broiler growers who were on contract had a less favorable attitude toward the feed dealers than did the independent growers.

This might be expected since the contract broiler grower feels that he is somewhat "dominated" by the feed dealer. The chief complaint, and one voiced by a considerable number of contract growers, was that the price of feed is too high on contract. It was found that the average Meigs County broiler grower on contract reported paying nearly $14 per ton more for feed than the independent grower. This price difference was given by many independent growers as a reason for not accepting the practice. The opening sentence in this article as well as such other comments as "The (feed) dealer is making a h--- of a profit," illustrate some of the broiler growers' feelings along this line.

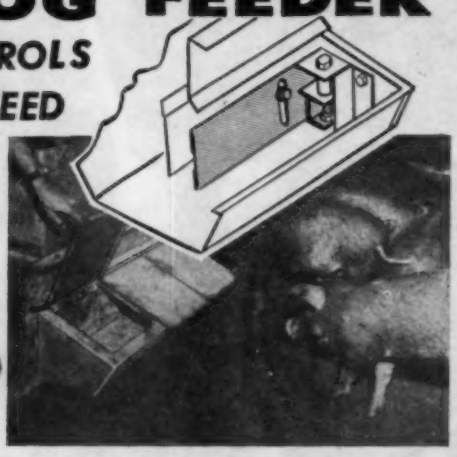
Although the Meigs County broiler growers were generally satisfied with their contractual arrangements, nevertheless the advent of broiler contracts suggests that the local feed dealer has some new public relations problems.

Save Labor and Save Feed with Lemanco ALL-IN-ONE BULK STORAGE HOG FEEDER

SPECIALLY DESIGNED BAFFLE CONTROLS FLOW OF FEED

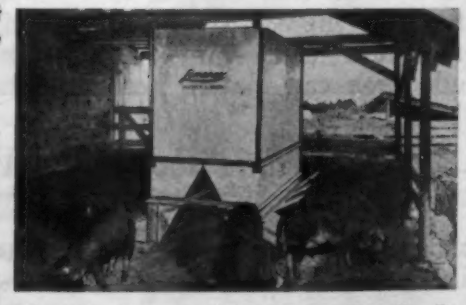


Pat. Pend



Note low level of feed—no wastage on floor—one reason why producers are acclaiming LEMANCO'S BULK FEEDER. Adjusting screws at each corner regulates opening and closing of baffle to desired setting to prevent overfilling troughs. Locknuts hold baffle in place.

As an inside feeder, bin can be filled either through roof with a LEMANCO ROOF DOOR, or the auger can be swung in under the roof, as shown. As an outside feeder, wide roof hatch permits filling to capacity—makes checking feed easy.



This feeder will accommodate many more hogs than the conventional 16-hole feeder because the hog does not waste feeding time rooting in the trough. In pasture or feed lot, bin can also be filled by bag from farm truck.

Profit Through Better Feed Conversion

The LEMANCO BULK HOG FEEDER is designed for the producer who demands more efficiency in his feeding operation. It is 8 feet long, 3½ feet wide and 7 feet high, with a 16-hole feeder. With 36-inch sides the capacity is 2½ tons. With 48-inch sides, 3 tons.

The sturdy feeder base, which has a 60-degree slope for free flow of any hog feed, is made of 14-gauge copper-bearing 2-ounce coated galvanized culvert steel. The sides, roof and doors are 16-gauge galvanized steel.

The bin can be partitioned lengthwise, if desired, so that it can be used as a fence row feeder for different age hogs on either side. It can also be partitioned crosswise for corn and supplement free choice feeding and can be adapted for filling by air.

WITH TOP (Outside)		WITHOUT TOP (Inside)	
MODEL	WEIGHT (Approx.)	MODEL	WEIGHT (Approx.)
OB 83518-48 (3 ton)	965 Lbs.	IB 83518-48 (3 ton)	855 Lbs.
OB 83518-36 (2½ ton)	900 Lbs.	IB 83518-36 (2½ ton)	790 Lbs.

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Joins Schmitt & Kern Texas Sales Force

FT. WORTH, TEXAS—Charles J. Barr, who has been active in the grain and feed ingredient brokerage business in Ft. Worth and Lubbock for several years, has joined the Schmitt & Kern, Inc., sales force here.

C. J. Barr

Mr. Barr will be located in the company's Ft. Worth offices with Ben. E. Schmitt and Luther Pharr, according to the Schmitt & Kern, Inc., announcement.

Columbus Feed Club Has Golf Outing

LONDON, OHIO — The Columbus Feed Club held a golf outing here recently. About fifty members and their guests attended the party, according to Cleon C. Welch, secretary of the club.

After a chicken dinner, Mr. Welch presented a trophy for the lowest score to E. E. Killeen, Sark & Plum, Inc.; a trophy for runner-up to C. R. Nelson, Corn Products Sales Co.; a silver tray for the longest drive to John Bierstecker, Bemis Bro. Bag Co.; and an Arrow golf assortment to Mike Karr, Karr & Co., for golf poker hand score.

The next meeting will be the annual barbecue and fish fry to be held Sept. 4 at Worthington, Ohio.

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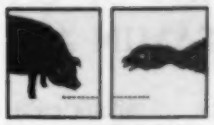

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The Future of Cattle Feeding

"How can anyone help but be optimistic when he looks at the record of the past and then looks forward. . . . The bright future of cattle feeding lies in scientific research."

By W. D. Farr
Farr Farms Co.

EDITOR'S NOTE: This article was presented as an address at the Indiana Cattle Feeders Day at Purdue University. The author is vice president of Farr Farms Co., Greeley, Colo., a large cattle feeding operation. Mr. Farr discusses several changes expected in the cattle industry, some probable shifts and expansions in production, and generally looks optimistically at the future of cattle feeding.

To look ahead at probable future developments in cattle feeding, we must consider several phases of the entire cattle industry:

(1) Our total cattle inventory; (2) public acceptance of our product; (3) improvement in the efficiency of cattle to convert feed to beef; (4) changes in human population and their changes in diet; (5) shift in the cattle population; (6) the change of cattle feeding from a sideline to a major business in many areas, and (7) the greatly accelerated research programs at almost every college on cattle nutrition.

The cattle inventory on Jan. 1, 1959, was 96,851,000, a new all-time high. Of this total, 64,025,000 are beef cattle. This is almost 2 million more beef cattle than we have ever had before. We are in the expansion phase of the cattle cycle; therefore, these numbers should rise moderately in the next few years.

Near Future Expansion

Most experts agree that beef cattle numbers will expand for several years. Large supplies of feed grains are in storage and eventually must be consumed. Many crops which have enjoyed high support prices will not be as profitable at a lesser price; therefore, this land will likely go to forage crops and eventual beef production.

These changes, plus many others, have every indication that the supply of beef animals for feeding will gradually be increased. This means that our raw material, feeder cattle, will be available in sufficient numbers to continue to supply an ever larger amount of fed beef.

The April first cattle-on-feed report was recently issued. There are several significant facts in this report. We have 6% more cattle on feed than a year ago, and the largest number for the April first in record. Last year the number on hand April 1 was the largest ever. This continued growth of cattle feeding each year is a very important contribution to all beef consumers and to all phases of agriculture.

Per Capita Consumption

Beef consumption per capita has greatly increased from 62.7 lb. per capita in 1951 to 87.3 lb. in 1958. Apparently, the consumers will buy beef at a relatively high price up to about a 90 lb. per capita consumption rate. However, these consumers want a relatively stable supply of beef from month to month, and they want the right kind of beef. The consumer preference of beef over other meats has been increasingly apparent since the war. They will buy more beef with less price discount than they will buy either pork or poultry.

This fact of beef preference is most encouraging for the future of the cattle industry. However, this same fact presents a challenge that cattle feeders must try to smooth out supplies at a high per capita level, so that the industry can realize the full potential of this consumer preference. This consumer preference has been developed by an ever increasing, steady supply of uniform quality fed beef. The percentage of cattle slaughter, which are fed cattle, has increased steadily in the past years. This year well over 50% of the total cattle slaughter will be fed cattle. Probably in the next decade all slaughter cattle, with the exception of cows, will be fed cattle. These facts make it evident that the cattle feeder must assume more of the responsibility of giving the consumers exactly what they want.

Consumer Demands

Consumers are insisting on smaller cuts of beef. The beef must be tender. It must have had considerable feed in order to have good flavor. The consumer wants all these qualities, but she doesn't want any excess fat. Here is a real challenge to all segments of the feeding industry. We must accept the responsibility of trying to produce this ideal animal for the consumer. Whenever we put cattle in our feedlots we should have this ideal in mind. If the cattle industry will accept the responsibility of giving Mrs. Housewife as near perfect beef as possible, then future beef consumption will be much higher. This will require expansion of the entire cattle industry.

Certainly we are making progress in breeding feeding efficiency into

FROM ONE EXPERIMENT

How an independently conducted supplied important comparative

1. THE INADEQUACY OF CAROTENE AS A SOURCE OF VITAMIN A

THE STUDY Five lots of day-old Single Comb White Leghorn chicks were fed a basal diet containing appreciable amounts of pro-vitamin A in the form of yellow cornmeal (50% of diet) and alfalfa meal (2.5%). One lot received the basal diet only—four lots graded levels (600, 1200, 1800, 2400 USP units per lb.) of vitamin A derived alternately from Nopcay Type V and fish liver oil.

Less than at hatching time!

Lot No.	Diet and/or Product Fed	Level of Vitamin A Fed (IU per lb.)		Total A Ingested	5-wk. liver storage (IU/liver)	% Ingested A Stored in Liver
		from carotene	from preformed A			
1A	Basal diet only[1]	1850[2]	0	3570[3]	32	0.9
B	Basal diet only	1850	0	3535	41	1.2
2A	Nopcay Type V	1850	600	1213[4]	96	7.9
B	Fish liver oil	1850	600	1167	54	4.6
3A	Nopcay Type V	1850	1200	2381	229	9.6
B	Fish liver oil	1850	1200	2515	92	3.7
4A	Nopcay Type V	1850	1800	3670	585	15.9
B	Fish liver oil	1850	1800	3634	131	3.6
5A	Nopcay Type V	1850	2400	5064	915	18.1
B	Fish liver oil	1850	2400	5326	237	4.4

[1]Contained 50% yellow cornmeal and 2.5% alfalfa meal as carotene sources. [2]Conservative estimate. [3]From carotene sources. [4]Based on preformed vitamin A only (does not include amount derived from corn and alfalfa meals.)

DISCUSSION 1. *Carotene.* The inadequacy of carotene is strongly emphasized in this study. The basal diet was a balanced diet, not a vitamin-A-deficient diet. It contained 50% yellow cornmeal and 2.5% alfalfa meal. This is close to the maximum possible carotene that can be included in a balanced diet. In spite of this relatively large amount of pro-vitamin A, however, the ration failed to produce any increase in vitamin A activity in the liver. In fact, though the weight of the chicks at the end of 5 weeks had increased to about 10 times that at birth, the livers did not even contain the vitamin A they had to begin with (60-80 IU is normal).

It is evident that chicks convert carotene to vitamin A very inefficiently. Under stress conditions such a diet provides no safety factor whatsoever.

Further studies are to be made available on this phase of nutrition. But as an interim report, this study makes an important point:

CONCLUSION NO. 1 Carotene is poorly utilized and is of very limited value as a vitamin A source for chicks

Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

cattle. This is a long, slow process with many problems; however, there are many favorable signs.

Artificial Insemination

The large artificial insemination program sponsored by a major packer may have extremely far-reaching results. The artificial breeding program has been highly successful in the dairy industry. The number of milk cows has declined steadily but milk production has increased significantly.

One of the principal contributing factors to the much higher milking efficiency is artificial breeding. The possibilities in beef cattle are even greater. The problems, of course, are more difficult, but they are not impossible. As these problems are solved, perhaps artificial insemination will contribute the greatest single boost in feed efficiency.

Perhaps this is a statement that will be challenged by many people. The reason I am so enthusiastic about the program is because of the time element. The artificial insemination methods, if practical, could save the beef cattle industry 20 or 30 years in really improving the gainability and over-all beef production efficiency.

The trend of recent greatest expansion in beef cattle numbers is here in the north central states and in the southern states. This expansion of beef cattle will continue rapidly in both areas. Herds are smaller in these states than they are in the West. The pastures are smaller, better watered, and the carrying capacity per acre is much greater.

These physical advantages in your areas should make the artificial breeding program particularly attractive. If the program proves to be as successful as hoped, your areas could be leading the nation in beef production.

Improvement Methods

There are many breeders interested in the weight-for-age theory of beef production. Many others are following the progeny testing method of only selecting animals that are superior in growth ability. Many breeders are trying crossbreds of many kinds. All of these programs and others not mentioned are contributing to the goal of more efficient beef production. We have bred cattle too long for appearance. We have been overlooking the basic objective of converting feed to beef with emphasis on the kind of beef that the consumer wants.

Many of the western colleges are doing a lot of research on traits that are hereditary. For example, tenderness of the muscles which produce the steaks is governed a good deal by inheriting these qualities. Many universities are doing major research on meat. Actually, this field of meats research will definitely add to the progress of beef improvement.

We are well started in a revolution of agriculture. Every agricultural industry must become as efficient as possible in order to compete with other foods and products. Our farm lands will have to be operated on the theory of the best possible land use for that particular area.

The competition of other foods, particularly pork and poultry, is going to force very rapid improvement in efficient beef production. Cattle feeders who are on their toes will have an opportunity to cash in on these developments in the next few years.

Gaining Uniformity

Let your imagination run ahead 20 years from now. At that time, I believe a cattle feeder will be able to buy animals that are much superior against today's best feeders. For example: today, if you buy 100 calves from a rancher, you will probably get calves sired by four or five bulls. When you buy 100 calves 20 years from now, you will likely buy them from a herd which has used artificial insemination for say 10 years.

The cows will all be at least three quarters full sisters. The same bull would have sired all of the cows. This one bull would have all the good qualities that science could breed into him. Every calf would produce tender beef. Every calf would have the maximum amount of high-priced cuts. Every calf would have the characteristics that produce high-yielding carcasses. Every calf would produce twice the daily gain we now get. Can you imagine the uniformity in appearance and feedlot performance these calves would have? Doesn't it make you anxious for the day when you will be able to buy that kind of feeders?

Following this illustration one step further, imagine the reaction of the supermarkets to this superior beef carcass. The uniformity of cuts, eating quality and appearance would certainly give beef top billing in their stores. The consumers would recognize the superior product, and surely beef consumption would increase. If these assumptions are true then cattle production and cattle feeding are going to become a much more important part of American agriculture.

An Expanding Market

The population of the U.S. is growing at the rate of approximately 3 million people per year, or slightly over 8,000 per day. This increase in population is not staying put in the areas where they were raised. A large percent of this new population is moving either west or south. A few large city industrial areas, such as Chicago, are growing, but the big shift in population is and probably will continue to be west or south, where there is better weather with more sunshine, which gives people better living conditions. California and Arizona are getting about one fourth of this population increase. About 2,000 new people arrive daily in these two states.

Greater Beef Needs

This increase in population and the shift into new areas have changed the complexion of cattle feeding very noticeably in the last 10 years. The 3 million new customers make a new market for approximately 400,000 steers, weighing 1,000 lb. each, every year. This yearly increase soon gets into large numbers. Ten years from now we will need to feed an additional 4 million cattle. This is based on today's consumption rate. As our

. . . A DOUBLE RESULT

study by a Midwest feed manufacturer* data on vitamin A utilization . . .

*Name on request

2. THE OUTSTANDING EFFECTIVENESS OF NOPCAY® TYPE V AS A SOURCE OF VITAMIN A

THE STUDY Five lots of day-old Single Comb White Leghorn chicks were fed a basal diet containing appreciable amounts of pro-vitamin A in the form of yellow cornmeal (50% of diet) and alfalfa meal (2.5%). One lot received the basal diet only—four lots graded levels (600, 1200, 1800, 2400 USP units per lb.) of vitamin A derived alternately from Nopcay Type V and fish liver oil.

Twice as effective!

Lot No.	Diet and/or Product Fed	Level of Vitamin A Fed (IU per lb.) from carotene	Level of Vitamin A Fed (IU per lb.) from preformed A	Total A Ingested	5-wk. liver storage (IU/liver)	% Ingested A Stored in Liver
1A	Basal diet only[1]	1850[2]	0	3570[3]	32	0.9
B	Basal diet only	1850	0	3535	41	1.2
2A	Nopcay Type V	1850	600	1213[4]	96	7.9
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B	Fish liver oil	1850	2400	5326	237	4.4

[1]Contained 50% yellow cornmeal and 2.5% alfalfa meal as carotene sources. [2]Conservative estimate. [3]From carotene sources. [4]Based on preformed vitamin A only (does not include amount derived from corn and alfalfa meals.)

DISCUSSION 2. *Preformed Vitamin A (Nopcay Type V vs. Fish Liver Oil).* This study provides excellent substantiating evidence of the superior biological effectiveness of Nopcay Type V over fish liver oil (both are sources of preformed vitamin A). Although each of these products was added to a basal diet *containing appreciable levels of carotene,* the data above are reported on the basis of preformed vitamin A intake only. This is done to present a clearer indication of the relative performance of Nopcay Type V and fish liver oil. It is obvious that the very low level of liver storage due to carotene intake would have almost no effect on the overall picture.

An interesting comparison can be made of the results of Nopcay Type V fed at half the quantity of fish liver oil. Nopcay Type V fed at the 600-unit level compares favorably with fish liver oil at 1200. Nopcay Type V at 1200 matches fish liver oil at 2400.

CONCLUSION NO. 2 Micratized® Nopcay Type V is an unusually effective source of vitamin A for chicks, ranking far above carotene and fish liver oil in this respect

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country develops and income increases people will demand a higher quality diet. This means more and more animal products. Many people fail to realize what a higher quality diet will do for beef production. I would go way out on a limb and make a prediction that on Jan. 1, 1969, we will have 12 million cattle on feed rather than the six million we had in the feedlots this year.

Growth in West

The growth of cattle feeding in the West has been phenomenal in the past 10 years. This year, about one third of the fed beef will be produced in the western states. The new April first cattle-on-feed report shows feeding up 23% in five western states, compared to 6% for 21 states reporting, and the main Corn Belt was even with last year.

The increase in western feeding can be traced to several reasons. First, the increase in western population; second, a greater than average per capita consumption of beef; third, the tremendous increase in feed grain production in these states, and, fourth, the growth of the very efficient large feedlots, which handle thousands of cattle yearly on a continuous flow program.

Southern Beef Production

The same phenomena of growth are now getting underway in the South. They produce a surplus of feeder cattle. They can and will produce a great deal more grain. They have a large population whose income has improved tremendously as consumers. These southern states cover a large area twice as big as the Corn Belt. Their weather is mild, consequently they can get into all phases of the cattle business cheaper than most areas.

Cattle in the southern states is a "forced choice" as they are rapidly adjusting from a cotton economy to a livestock economy. I would again make a prediction that the cattle areas to watch in the future, both as producers and cattle feeders, are the southern states. They will be real competition for everyone.

The west has led the way in operation of large cattle feedlots. The continued growth of cattle feeding in the West is largely confined to new lots which are constantly being built. For many years there has been a question whether these lots could compete with the farm feeders. Time has proven that large feedlots feeding cattle on a constant turnover, where beef is produced every month of the year, are very successful.

Growth of Feedlots

This mechanical age, plus the modern feed additives, have given large feedlots a permanent place in the cattle feeding industry. The efficiencies obtained with large numbers, reduced labor, mechanical feeding and better balanced feeds will spread to the Corn Belt. The farm feeder will not be eliminated, but he will surely have competition.

Actually it is the phenomena of the transition of cattle feeding as a farm sideline to a major agricultural business. There are hundreds of successful feedlots in the West. If the business was not economically sound these feedlots would not have been built in many states. These are the kind of feedlots that are being built in the South. I firmly believe that in the next few years you will see the same trend to large feedlots develop in the Midwest.

College Research Efforts

I want to give credit to the wonderful college research work on cattle feeding problems. Remember the difference in the 1908 gain and feed cost compared to 1958. Today you have seen and heard of the new work which your college has been doing in the last year. Again, there was more progress. All of the agricultural colleges are making a tremendous push on cattle nutrition. Poultry and hogs are more efficient in their conversion of feed to meat than cattle are. The reason lies largely in the fact that the colleges worked out their problems first because they were easier and cheaper. However, now the emphasis is on beef. With the ability and energy of the college research men, dedicated to better beef production, the cattle feeding industry will move ahead rapidly in the future.

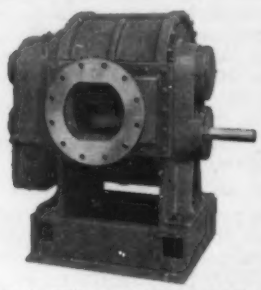
It is obvious that I am optimistic about the "Future Developments in Cattle Feeding." How can anyone help but be optimistic when he looks at the record of the past, and then looks forward? The wonderful research work conducted by many universities has been accelerated in all fields. The research men, who have furnished the "know-how," are digging deeper into the secrets of nature and science. The bright future of cattle feeding lies entirely in the hands of scientific research. I would again venture a prediction that in another twenty years we will have added another strange vocabulary to our feeding language.

Surely, this great industry of ours will continue to progress and prosper, and contribute to the health and well being of mankind.

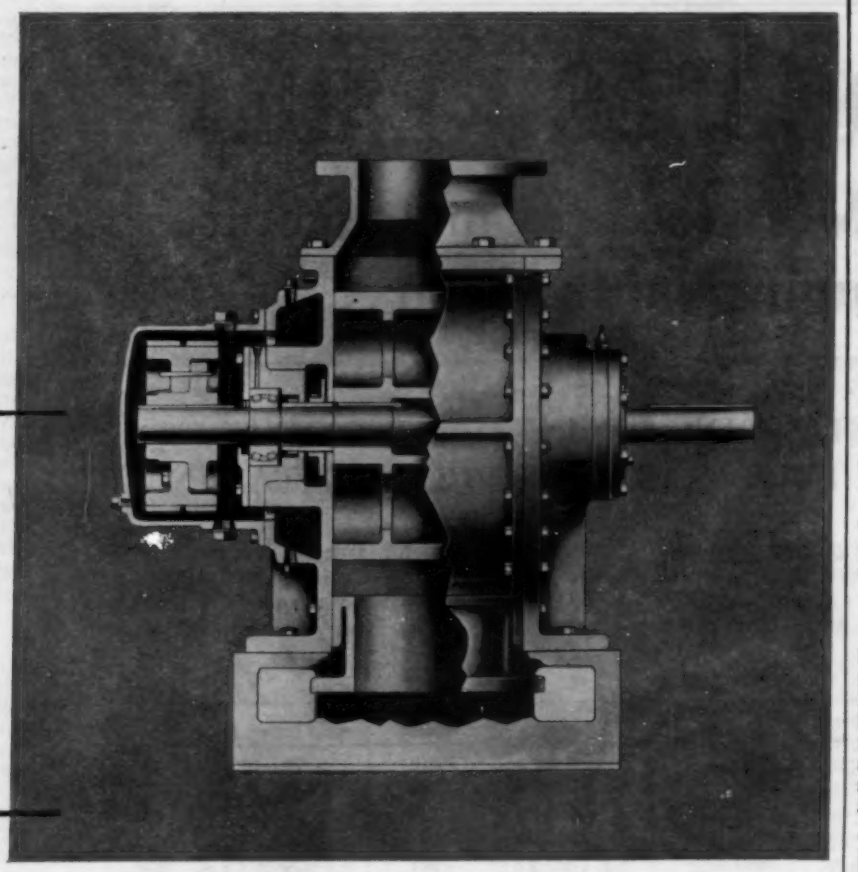
NEW FEED BUSINESS

WAUKON, IOWA—Alan Brown has announced that he plans to open a feed and agricultural business in the Nagel elevator building. The new business, to be operated under the name of Brown's Ag Service, will be an authorized dealer for Bolson livestock feeds, farrowing stalls, chicks and other Bolson equipment.

Series 400 Blowers are manufactured of close-grain cast iron, reinforced to prevent distortion under severe conditions.



Series 400V, same as above, mounted vertically. Extended bases provided at additional cost, for mounting motor and drive.



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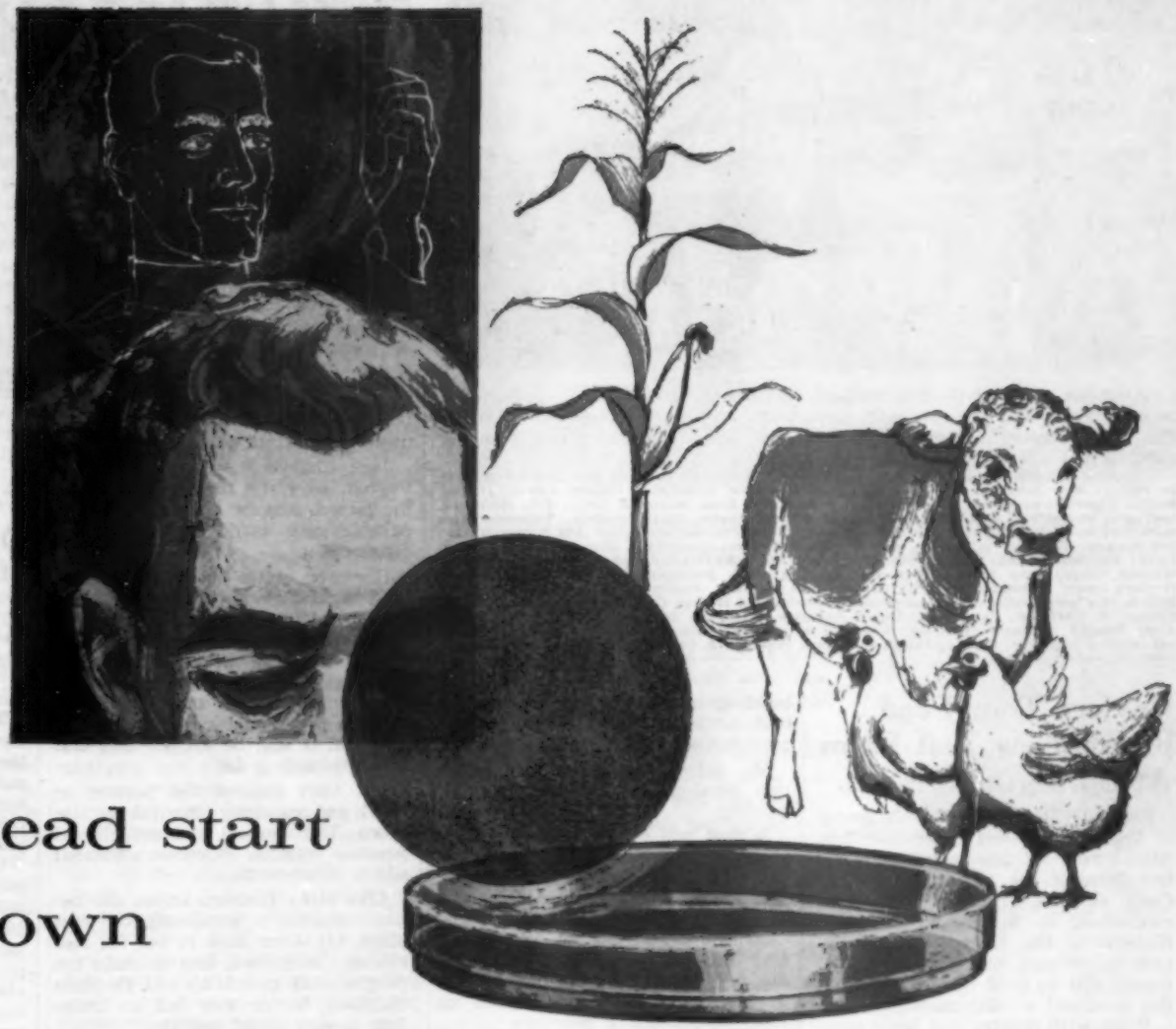

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VIGORENA MEETING—The Springfield (Minn.) Milling Corp. conducted a tour of its new test farm recently as part of a one-day Vigorena dealer school. The group paused in front of the pole-type swine farrowing and finishing building now under construction for this photo.

Dealers (all from Minnesota) and others participating in the tour are, front row (left to right): Ron Johnson, Vigorena nutritionist; Roger Mickelson, Walnut Grove; Harold Smith, Vigorena salesman; Floyd Drehmlow and Bob Jaas, Mountain Lake; Trig Helleloid, manager, Springfield Milling Corp.; Gerald Hier, Jackson; Cecil Femling, Vigorena sales manager, and John Hayhoe, Jacobson Machine Works. In the back row (left to right) are: Art Amann, Vigorena salesman; George Moe, test farm supervisor; Orren Flueck, Buffalo Lake; Charles Larson, Strong-Scott Manufacturing Co.; Harold Giesler, Vigorena resale, Walnut Grove; Mike Frantz, Vigorena salesman; Dick Robinson, Wanda; Warren Julius, Hector; Casey Masterson, Walnut Grove; Gene Gunther, Butler Manufacturing Co.; Stan Dillon, vice president and general manager, Springfield Milling Corp.; Harry Harken, Vesta; Emmet J. Hoffman, Feedstuffs; Ralph Anderson, Vigorena salesman; Peter Prinz, Chandler; Donald Mariner, Wilmont; Kenneth Hoime, Kenneth; Eyler Mikaelson, Vigorena advertising manager; Charles Johnson, Sprout, Waldron & Co., Inc.; G. A. Carlson, Strong-Scott Manufacturing Co.

Dealers Tour Feed Firm's New Test Farm At Springfield, Minn.

SPRINGFIELD, MINN.—A group of Vigorena dealers made the first official tour of the newly-acquired test farm of the Springfield Milling Corp. as part of a one-day school conducted at Springfield recently. Known as the George Moe farm, two miles east of Springfield, the center will be used to test feeds under practical conditions.

Work with poultry will begin soon, and pigs will be brought on the farm about Aug. 1, according to Ron Johnson, company nutritionist. Dealers looked over a pole-type swine building now under construction. A beef cattle building is scheduled for construction next year.

Mr. Johnson reviewed feed nutrition developments at the dealer meeting.

A feed mill equipment panel composed of John Hayhoe, Jacobson Machine Works; Gene Gunther, Butler Manufacturing Co.; G. A. Carlson, Strong-Scott Manufacturing Co., and Charles Johnson, Sprout, Waldron & Co., Inc., discussed grinding, mixing and handling problems. Emmet J. Hoffman, Feedstuffs, spoke on feed merchandising practices.

In charge of the day-long program were Trig Helleloid, Springfield Milling manager, and Cecil Femling, sales manager.

Packing Firm Enters 'Contract Pasturing' Project with Farmer

EL PASO, TEXAS—The Peyton Packing Co. has started an experimental "contract pasturing" project, but this will not replace entirely the firm's usual feedlot finishing procedure.

Peyton, the largest meat packer in the El Paso area, has signed the initial contract with J. L. Carr, Clint, Texas. The firm has moved 160 head of yearling crossbreed cattle to a 30-acre pasture which Mr. Carr planted to sweet Sudan grass. The animals will graze about 120 days, or until the pasture is exhausted.

Jack Chauvenet, vice president of Peyton, says the firm will pay 15¢ lb. gained. Feedlot costs for a comparable gain would be 25¢ lb., he estimates.

However, cattle fed on green feed tend to produce "soft" meat, and Mr. Peyton intends to take the cattle to the regular feedlot for another 120 days to give the meat the right finish. Mr. Chauvenet says the rate of gain on the green diet should be about a pound and a half a day; on dry feed it will be around two and a half pounds a day.

Mr. Carr planted the pasture in April, and originally intended to raise sheep. The Peyton contract offered possible profits, however, without added investments.

Like other farmers across the nation who are pondering contract plans, Mr. Carr likes to see the risk element minimized, and he feels the program will benefit his soil. He plans to plant barley this fall to maintain a year-round pasture.

Mr. Carr and the Peyton firm say they will expand the program if the experiment proves profitable to both.

Cyanamid Salesman Transferred to Georgia

NEW YORK, N. Y.—American Cyanamid Co. has announced the transfer of Carl P. Barnhill, agricultural division sales representative, from the broiler area of South Carolina to northern Georgia.

C. P. Barnhill

Mr. Barnhill has been with Cyanamid for two years. He is a graduate of Arkansas State College, where he received a bachelor's degree in agriculture. He and Mrs. Barnhill are presently living in Atlanta.

To Discuss Soybean Outlook at Meeting

HUDSON, IOWA—A session on the market outlook for 1959 crop soybeans will wind up the 39th annual convention of the American Soybean Assn. to be held Aug. 11-12 at the Hotel Sheraton-Jefferson, St. Louis, Mo.

The program committee reports a leading farm economist will size up the price outlook for the 1959 crop, and a panel consisting of economists and leading producers will discuss the market outlook for the coming year.

Dr. T. A. Hieronymus, associate professor of agricultural marketing, will speak on "What We Will Get for 1959 Crop Soybeans." "His stand favoring lower government price supports on soybeans aroused considerable controversy in the industry in recent months," says the program committee.

The convention will immediately follow the annual meeting of the National Soybean Processors Assn. at the same hotel Aug. 10.

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OFFICERS—New officers of the Mississippi Cottonseed Crushers Assn. are (left to right): A. J. Vaughan, Jr., Buckeye Cotton Oil Mill, Corinth, president; M. D. Kolb, Southern Cotton Oil Division, Greenville, vice president; and Gordon Marks, Jackson, secretary-treasurer.

Mississippi Cottonseed Crushers Association Elects New Officers

BILOXI, MISS. — The Mississippi Cottonseed Crushers Assn. has elected A. J. Vaughan, Jr., Buckeye Cotton Oil Mill, Corinth, president. He succeeds S. B. Shaiffer, Leland, Miss.

M. D. Kolb, Southern Cotton Oil division, Greenville, was elected vice president, and Gordon Marks, Jackson, was elected secretary-treasurer.

Keynote speaker of the golden jubilee convention at the Buena Vista Hotel in Biloxi, was C. W. Hand, Pelham, Ga., president of the National Cottonseed Products Assn. and president of Pelham Oil & Fertilizer Co.

Mr. Hand reported a significant improvement in the entire cotton industry during the past year. "Morale in the industry was at an all-time low last year," he observed, "when cotton growers were facing the smallest cotton acreage in nearly a century. Today this picture has changed because of changes in the federal price support law."

Mississippi has an allotment of 1,648,594 acres this year, an increase of 24% over the acreage that would have been allotted if the law had been changed, and 40% greater than the acreage harvested last year.

The value of a well organized traffic department in transporting merchandise was also outlined to members of the association. E. Gordon Deane, general traffic manager of the Railway Supply & Manufacturing Co., Charlotte, N. C., told the cotton seed men that a good traffic department can spell the difference between profit and loss in today's complex industrial picture.

Mr. Deane recommended fully organized traffic departments for any company paying at least $75,000 for transporting goods each year.

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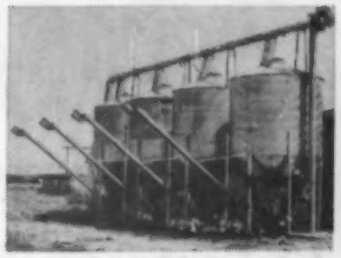
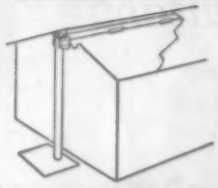
Four, 6, 8 and 10 inch augers are used vertically, horizontally or at any angle to handle grain, bulk feed or other non-bridging materials indoors or out.

In addition to efficiency and economy these Wyatt systems require minimum space, are low in upkeep and are self cleaning. Wyatt engineering services are available for plant layout and design. Write for details.





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Further Progress in Iowa Co-op's Egg Program Reported

EAGLE GROVE, IOWA — Recent low egg prices haven't kept the quality egg program of the Boone Valley Cooperative Assn. from steadily moving ahead, officials report.

The Des Moines (Iowa) Sunday Register reported recently that the co-op, started last September, has 178 producers within an 80-mile radius and is shipping 1,700-1,800 cases of quality eggs a week to the Great Atlantic & Pacific Tea Co. for its eastern grocery stores.

Joe Mittler, manager, was quoted as saying, "We have stuck strictly to our 4¢ doz. under New York price to the producer because these eggs are going to stay on the market and our program is going to be self-sustaining."

Mr. Mittler, the Register reported, said some producers in the program have been able to produce eggs for 11@14¢ feed cost per dozen. This, however, he noted, does not take into consideration other costs involved. Co-op producers, it was noted, have been paid an average of $1.32 per hen for taking care of the flocks.

Receiving 4¢ doz. under the mixed fancy New York market means a premium of 3@5¢ doz. more than the local price.

Producers in the "more or less" integrated program must meet such requirements as keeping birds confined, following uniform management specifications and following a controlled co-op feeding program, with complete feeds obtained from the Boone Valley Co-op.

The feed formula, which must be mixed at a co-op elevator or mill, is composed of 1,200 lb. ground corn, 300 lb. pulverized oats and 500 lb. "laying concentrate 32."

Eggs must be dry-cleaned and kept under refrigeration, the Register reported. The co-op sells the egg dry-cleaning machines, which cost about $355, and egg coolers, which cost about $299, to the producers at wholesale. Payments are deducted from egg checks.

The co-op's building for processing and handling eggs is 66 by 202 ft. It has a 20 by 40 ft. receiving cooler and a 40 by 66 ft. holding cooler. The rest of the space is occupied by the business office, an office for a full-time U.S. Department of Agriculture inspector and a modern processing room for candling, grading and packing eggs.

Farm flock replacement is staggered so that there is an even flow of large size eggs to the processing plant. There is no off-season, peak season or a rash of pullet eggs, it was noted.

Molasses to Toledo

TOLEDO, OHIO—This season Industrial Molasses Corp. will bring an estimated 40,000 tons of molasses into this Lake Erie port.

Arthur W. Huguley, Jr., vice president, reported that this cargo will be shipped from Cuba via a 463 ft. tanker, Amphitrie, chartered for five years.

California Studying Disposal of Manure

DAVIS, CAL. — Agricultural sanitation—removal, processing, storage and disposal of manure—is being studied with the aid of "systems engineering" by University of California agricultural engineers.

In a talk during a recent meeting of the American Society of Agricultural Engineers at Cornell University, Ithaca, N.Y., Samuel A. Hart, University of California agricultural engineer, reported that progress has been made in improving cleanup methods. Examples: Mechanical scooping of cow manure has been proved fairly successful. A new pick-up machine for cage poultry houses has been designed and tested on the Davis campus. Hosing out of swine yards may become as popular in California as it is in the Midwest.

Mr. Hart noted that if manure cannot be directly applied to cropland, it must be processed or stored. "Various methods of processing manure are now being tried," Mr. Hart said. "Though a net profit probably cannot be obtained, processing may offer an economical method of sanitation." Even though manure has value as a fertilizer, the cost of handling it often outweighs its worth.

Processing methods under investigation include sun drying, field composting, drum composting, aerobic digestion (as used in some municipal sewage plants) and anaerobic digestion in septic tanks. California poultrymen are beginning to build fly-tight storage bins that could be adapted for storage of other livestock manures.

Habco Manufacturing Has New Ownership

BEATRICE, NEB.—Habco Manufacturing Co., Columbus, Neb., manufacturer of grain driers, crop conditioning equipment and aluminum irrigation tubing, has come under new ownership with the acquisition of all its capital stock by Dempster Products Co., a wholly owned subsidiary of Dempster Mill Manufacturing Co., Beatrice.

The new owners announced that Habco production will be continued and expanded. Habco will be operated independently and its products marketed to farm consumers by its present distributor - dealer organization.

C. A. Olson has been appointed general manager of Habco.

Here's what we are telling your customers about

Dr. Wallis answers your questions about...

vitamin D nutrition

THE IMPORTANCE OF VITAMIN D NUTRITION

In this educational series to farmers and feeders, Dr. G. C. Wallis answers important questions about Vitamin D Nutrition.

q: Is there a new recommendation for the amount of vitamin D to be fed for preventing milk fever?

a: Yes, on the basis of recent work, the Ohio Agricultural Experiment Station now recommends 20,000,000 units of vitamin D_3 per day for five to seven days before freshening. This is two-thirds of the previous recommendation. Now milk fever prevention costs even less than before.

q: Can I depend upon good sun-cured hay to supply enough vitamin D for my livestock?

a: Definitely not. Contrary to what is often assumed, the amount of sunshine received in curing does not provide a reliable basis for judging vitamin D content. Some sun-cured hay is even lower in vitamin D than artificially dried hay.

q: I have a herd of good producing dairy cows. How much vitamin D do they need?

a: Experimental evidence on vitamin D requirements is limited to work for less than a year on five or six cows in moderate to low milk production. Obviously, this is not enough to give reliable information for high-level performance on a long time basis. Based on accumulating evidence on vitamin D needs, more feed manufacturers are increasing fortification of complete dairy rations to 6,000 - 8,000 units of vitamin D per pound. As an example, when fed at the rate of 10 pounds per day, a cow would get 60,000 - 80,000 units of vitamin D daily.

q: My brood sows are getting a lot of sun-cured alfalfa hay. Will that take care of their vitamin D needs?

a: Not necessarily. One-third of twelve sun-cured alfalfa hay samples included in a recent report would have contributed less than 60 units per pound of complete brood sow ration when used at a level of 25% and the lowest one only 20 units. The highest one of the twelve samples would have contributed far less than the 300 units per pound recommended by many nutrition authorities. (Send for free reprint "The Vitamin D Content of Roughages").

q: Will it do any good to put vitamin D into beef cattle rations?

a: Very little controlled research has been done, but benefits from supplemental vitamin D have been observed in college and commercial beef herds for growing, fattening, and breeding stock. Realizing that unrecognized losses may frequently occur, many feed manufacturers fortify beef cattle rations with vitamin D.

S. C. Wallis

Send your questions about vitamin D nutrition to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

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- **The variability of vitamin D from natural resources.**
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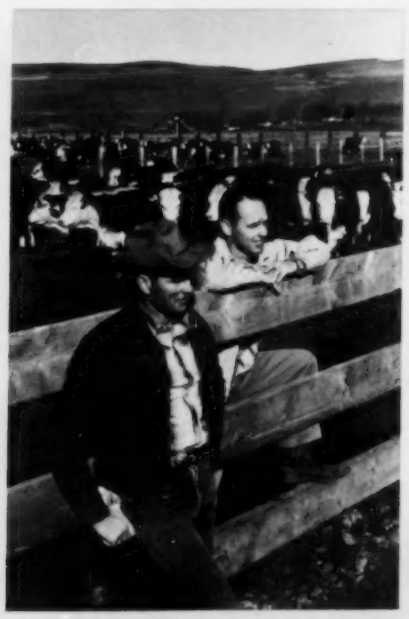
BRAND OF HYDROXYZINE HYDROCHLORIDE

The extra gains and feed efficiency were in addition to stilbestrol, implanted in both Tran-Q-fed steers and controls before the trial began.

Mr. McGregor put 2500 additional cattle on feed April 1. They're all being supplemented with Tran-Q.



There was no significant difference in dressing percentage or carcass grade with the Tran-Q-fed cattle.

WHAT IS TRAN-Q?

Tran-Q is a unique member of the tranquilizing drug family that has undergone extensive tests for four years. It has given handsome increases in feeder profit by providing extra gains and feed efficiency.

- Boosted beef gains up to 27% with an all trial average of 8.4%
- Improved feed efficiency up to 23% with an all-trial average of 7.4%
- Added up to $11.13 increased return per head above the cost of Tran-Q . . . average $4.83.

Unlike anything in your feeds

The extra gains and feed efficiency your customers get when your feeds contain Tran-Q are not available from any other feed ingredient.

For instance, in one trial where Tran-Q was added to rations containing Terramycin*, stilbestrol, or both, it improved gains an average of 12% ; feed efficiency 7% .

Impressive results with sheep, too

In trials with lambs, feeds containing Tran-Q have:

- Boosted gains up to 28%
- Improved feed efficiency up to 22%
- Added up to $1.30 profit per lamb above the cost of Tran-Q.

A versatile ingredient

Tran-Q is effective in all types of rations including high-roughage and high-energy finishing feeds.

It is added to feeds at a rate to furnish 2½ mg. per head per day. There is no question of safety . . . in feeding trials as much as 200 times the recommended level has been given cattle without harm.

Get full data now

Remember, Tran-Q is an entirely new kind of feed ingredient—unlike any now in your beef or sheep feeds. This important nutritional discovery may well change the entire market for your formula beef feeds.

Call your Pfizer representative for details on this new way to boost feed sales.

Tran-Q worked for Mr. McGregor . . .
it can work for your customers.

*Terramycin Brand of Oxytetracycline

John McGregor,
McGregor Land
and Livestock Company
Hooper, Washington

In a 130-day feeding trial, McGregor's Tran-Q-supplemented steers gained an average of 43.6 lbs. more than controls; improved feed efficiency by 11%.

The Tran-Q-supplemented steers returned $10.83 over controls.

McGREGOR TEST RESULTS

(in cooperation with Washington State College)

	Control	Tran-Q	Improvement over control
Total gain	373.6	417.2	43.6 lbs.
Av. daily gain	2.87	3.21	.34 lb.
Cost of gain (per lb.)	17.49¢	15.69¢	1.80¢
INCREASED NET RETURN			**$10.83 per head**

Washington feedlot test again demonstrates the extra gains and feed efficiency from feeds containing Tran-Q.

Results were so good, Mr. McGregor is planning to use Tran-Q in all his feeding operations.

Pfizer

Chas. Pfizer & Co., Inc.
Science for the world's well-being

630 Flushing Ave., Brooklyn 6, N. Y.
6460 W. Cortland St., Chicago 35
7600 Ambassador Row, Dallas 7
230 Brighton Rd., Clifton, N. J.
5251 Peachtree Industrial Blvd., Chamblee, Ga.
1500 16th St., San Francisco 3
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For Better Pellets...

THE SWITCH IS TO PACO

Here's the success story of the feed business . . . what dealers and customers* are saying after they've switched to pellets made from Paco!

"They form better . . . with the glossy and slick look I want."

"Moisture doesn't affect my Paco pellets."

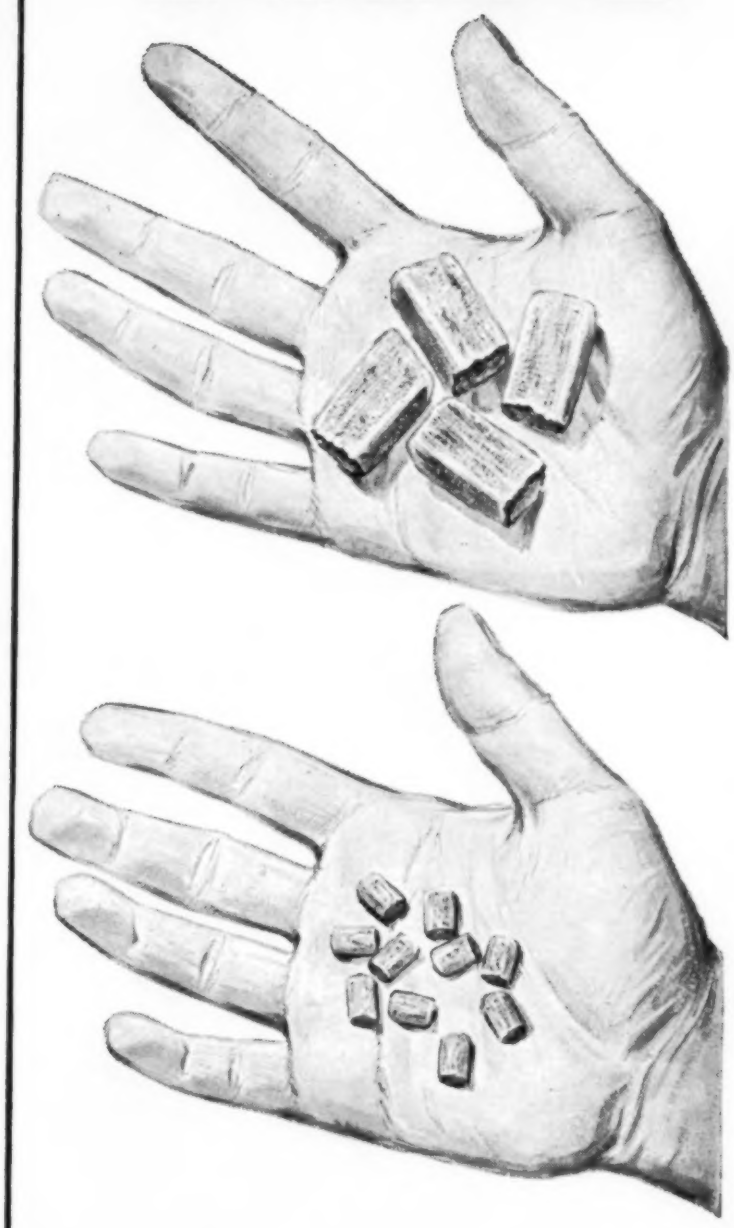
"Fines are down 38%!"

"Customers tell me Paco pellets taste better."

"And smell? Man, they smell good!"

"Production is up a healthy 6%."

"Nobody told me it was the only binder on the market that was nutritious, too . . . but it sure is."



These are the facts! Unsolicited testimonials are proving that Paco means better pellets for your customers . . . regardless of other ingredients in the formula! Stock and sell Paco for bigger profits from pellets!

**names sent on request*

PUBLICKER INDUSTRIES INC.
Animal Feed Sales Department, 1429 Walnut St., Philadelphia 2, Pa.
Without obligation send the following customer folders:

- ☐ POULTRY FEEDS with PACO
- ☐ SWINE FEEDS with PACO
- ☐ DAIRY and BEEF CATTLE FEEDS with PACO
- ☐ CUSTOM MIX DAIRY FEEDS with PACO
- ☐ FARM USES OF PACO

CLIP THIS COUPON TO YOUR LETTERHEAD

GET PACO!

PACKED IN THE FAST-SELLING 50 LB. BAG

PACO MOLASSES DISTILLERS DRIED SOLUBLES

A PRODUCT OF
PUBLICKER INDUSTRIES INC.
1429 WALNUT STREET, PHILADELPHIA 2, PA.
PHONE: LOCUST 4-1400

MIDWEST SALES AGENT—The North American Trading and Import Co., 101 Arsenal St., St. Louis, Mo. Tel: PRospect 6-0858
SHIPMENTS FROM PHILADELPHIA, PA. AND GRETNA, LA.

Dealers Establish Own Laying Flocks

MONROE, LA.—A form of poultry integration gaining in some parts of Louisiana is for feed dealers to establish their own laying flocks. The Feeders Supply Co. of Monroe is shying away from promoting any more hens among farmers and is increasing its own flock.

At present the company has 3,000 laying hens and expects to increase this to 5,000 within the next few weeks, according to R. R. Wroten, a partner in the firm.

"For quite awhile we promoted poultry for farmers," he explained, "but found that the small 500 to 1,000 hen flocks seldom paid. There were too many marketing hazards and competition for the small owners. Many times also they would try to find cheaper feed when egg prices dropped."

One advantage in the company-owned flock is that a saving can be made on feed; employees from the store can be used in handling the eggs, with such chores as grading, sizing and cartoning being done at the store during a dull part of the day. Also Mr. Wroten feels that he and his partners can possibly do a better job of managing the flock. Getting a small producer to take good care of hens is an educational process within itself, he says.

13 Mixer-Distributors Of Morea Supplement

NEW YORK—Appointment of 13 new mixer-distributors of Morea® liquid supplement has been announced by U. S. Industrial Chemicals Co., division of National Distillers & Chemical Corp.

As mixer-distributors, they formulate weighed amounts of Morea premix with molasses to produce the finished liquid supplement for ruminants, explains Dr. H. J. Prebluda, manager, U. S. I. special products sales. The supplement then is delivered by tank truck to storage feeding units on farms.

Newly appointed mixer-distributors are: Kerley Chemical Co., Phoenix, Ariz.; United Feeds, Inc., Sheridan, Ind.; Coberly & Plumb, Visalia, Calif.; J. McKenny Willis & Son, Inc., Easton, Md.; Producers Cooperative Exchange, Richmond, Va.; Mak-mor Corp., Clinton, Mass.; Richland Farm Service Co., Richland, Mich.; Liquid Fertilizers, Inc., Greensboro, Ala.; Plank Elevator, Inc., Creston; Blank's Agri-Service, Marion; Schumacher Agricultural Service, Columbus Grove; H & R Agricultural Service, Inc., Norwalk; and Aldo Soil Service, Inc., Wauseon, all of Ohio.

"More than 20 Morea liquid supplement mixer-distributors have been appointed in U. S. I. eastern and western sales areas recently, and Feed Service Corp., Crete, Neb., has about 90 mixer-distributors now operating in its Midwest sales territory. We expect that several hundred will be in business in the combined territories within another year," Dr. Prebluda stated.

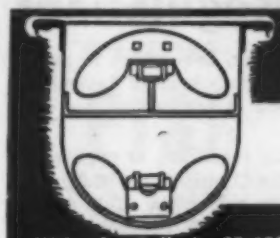
Besides molasses, ingredients in Morea liquid supplement are urea nitrogen, ethanol (ethyl alcohol), phosphoric acid and essential trace minerals.

Arkansas Distributor

FORT SMITH, ARK. — Truck Equipment Co., Fort Smith, Ark., is a new distributor for Highway Equipment Co., Cedar Rapids, Iowa. The firm will handle "New Leader" lime spreaders, combination lime and fertilizer spreaders, widespread lime and fertilizer spreaders and mobile blenders. Truck Equipment Co. serves the state of Arkansas.

ROADSIDE EGG VENDOR
Now Available on Time Payments

Here's an Egg Salesman who never sleeps. Yes, with the "T-LINE" EGG VENDOR you can get retail prices for your eggs which means an extra 10c per dozen profit. It's the way to turn your egg venture into a profit maker . . . If you are located on a well traveled highway near town or know of a good spot such as a gas station, large apartment building, parking lot, etc. The "T-LINE" EGG VENDOR is a proven unit. Fully automatic refrigeration and high humidity. Holds 112 dozen eggs in vending position plus refrigerated storage for an additional 120 dozen eggs. Write today for literature and time payment plan to TOBIAS ENTERPRISES, 326 North Michigan Avenue, Chicago 1, Illinois.



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operates within a standard Screw Conveyor Trough. Handles Grain, Flour, Chemicals, Coffee, Starch, Aggregates and many other free-flowing materials. Simple, dust-tight, self-cleaning, compact, fast, economical, long lasting, easy to maintain.

Write for Bulletin SF-659

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BO-DEE MINERAL STABLE D2

WISCONSIN ALUMNI RESEARCH FOUNDATION
Approved for VITAMIN D upon periodic tests

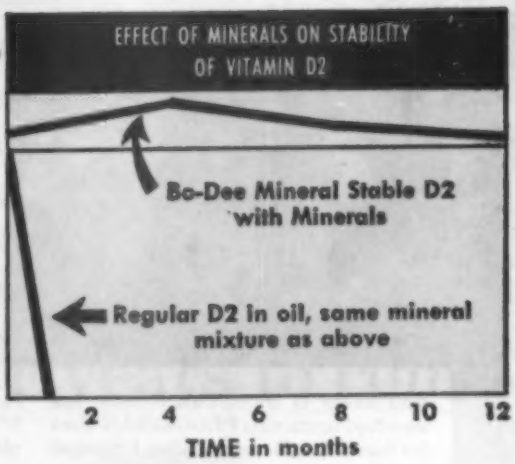
***Now* APPROVED**

For 12 months stability in the presence of these listed minerals by

WISCONSIN ALUMNI RESEARCH FOUNDATION

Note: MINERAL STABLE D2 fully present at the end of 12 months. Ordinary D2 practically gone in 30 days.

Ground Limestone	41.23%	Ferrous sulfate	0.50%
Steamed bonemeal	15.00	Copper sulfate	0.15
Tricalcium phosphate	13.00	Manganese sulfate	0.10
Magnesium sulfate	10.00	Cobalt sulfate	0.02
Iodized sodium chloride			20.00%



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The world's largest manufacturer of Vitamin D

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BOWMAN FEED PRODUCTS, INC., Holland, Michigan
Please send me full information and prices on new MINERAL STABLE VITAMIN D2.
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West Virginia Feed Regulations

CHARLESTON, W.VA.—New feed regulations for West Virginia have recently been ordered by John T. Johnson, state commissioner of agriculture. The new set of regulations and standards is effective Aug. 1.

Following are the regulations:

REGULATIONS
THE WEST VIRGINIA FEED LAW
Declaration of Policy

Article 14, Chapter 19, Code of West Virginia, places the enforcement of the West Virginia Commercial Feeding Stuffs law with the Commissioner of Agriculture, empowering him to establish standards and promulgate rules and regulations, and requires of him other duties in the enforcement of the law.

(a) Any manufacturer desiring to offer feed for sale in the State of West Virginia under his name, brand or trade mark, is required to secure from the Commissioner of Agriculture a certificate of registration for each brand.

(b) Each registrant is required to file with the Commissioner of Agriculture on or before the 20th day of January and July of each year a sworn statement setting forth the net weight by brand names and kinds of all commercial feeding stuffs sold in this State during the preceding six months and pay the tonnage fee prescribed by law.

(c) All persons offering or exposing feed for sale including retailers, wholesalers, jobbers and brokers are considered agents of the manufacturer, and are equally responsible for full compliance with the feed law, and any person who has in his possession any unlawful feed is responsible for compliance even to registration, payment of the tonnage fee, labeling, and any other legal requirements.

Rules, Regulations and Standards

No. 1. Registration

A. Certificates of registration shall be permanent unless:

(1) Cancelled by the manufacturer.

(2) If inferior ingredients are added.

(3) No sale of the brand is made during a calendar year. (A manufacturer may request that a registration remain in force on the tonnage report in which case the registration will remain effective for the next twelve month period.)

(4) Revoked because of failure to report tonnage sold and the payment of the proper fees.

(5) Revoked by the Commissioner of Agriculture for other cause.

B. Application for registration and tags must show:

(1) The amount or percent of salt, charcoal, carbonate and phosphate of lime grit.

(2) Minerals other than those listed in No. 1. B. (1) above and added in excess of 0.1% must be listed and the amount of each given. If such minerals are present in amounts of less than 0.1% they may be listed as being present in trace amounts.

(3) Vitamins, when guaranteed, shall be expressed in milligrams per pound of feed. Vitamin A and precursors of Vitamin A shall be described as U.S.P. units or equivalent. The Vitamin D content of products offered for poultry feeding shall be given as International Chick Units and for other uses as U.S.P. units. Vitamin E shall be listed as International Units per pound of Feed.

(4) The specific name of each ingredient. The name established by the Association of American Feed Control Officials shall be considered as the proper name and each ingredient must conform to the definition established for the name.

(5) In the case of cattle, sheep and goat feeds containing urea and/or ammonium salts of carbonic acid the equivalent amount of protein derived from these substances shall be tabulated next below statement of crude protein percentages in the following form:

Crude protein not less than....Percent. (This includes not more than ....Percent equivalent crude protein from non-protein nitrogen.)

No. 2. Illegal Ingredients.

A. Defined by law.

(1) Saw dust.
(2) Sweepings.
(3) Damaged or salvaged feed.
(4) Cotton seed hulls (whole or ground).
(5) Rice hulls (whole or ground).
(6) Peanut hulls (whole or ground).
(7) Buckwheat hulls (whole or ground).
(8) Oat or wheat straw knuckles.
(9) Stems.
(10) Off grade timothy, clover or any grasses.
(11) Elevator sweepings.
(12) Refuse.

B. Prescribed by the Commissioner of Agriculture.

(1) Coconut hulls.
(2) Any moldy materials.
(3) Grain smut.
(4) Metal particles.
(5) Screenings containing whole weed seeds.
(6) Sand and gravel.

No. 3. Minimum and Maximum Standards for Feeds Offered for Sale in

The "champs" for breeding and fattening use supplements made with "feed urea"

Dorothy Fae Siehl of Grinnell, Iowa, is paying part of her way through college on money from the sale of this Grand Champion Hereford, which was fed a ration containing PROCADIAN® Urea. Her brother and sister have also won high honors at the Denver show. Her father, John Siehl, noted for his valuable purebred bull sales, says, "These animals are proof to me that urea in a well-balanced formula feed achieves maximum bloom and finish with economy."

Gail Bauer of Broughton, Kansas, has used feed containing PROCADIAN Urea for four years. He says, "After I changed to this supplement, my results have been much better. A recent lot of steers gained 2.78 pounds per day on 2 pounds of supplement containing urea, plus ground ear corn, milo and hay."

It pays to use **PROCADIAN® UREA** *in your feed*

Thousands of farmers know your high-quality feeds containing PROCADIAN Urea Feed Mixture are excellent for meat and milk production at a profit. This pure, easy-mixing source of protein is so concentrated that you have plenty of room in the bag to supply all the energy, minerals, vitamins and other essentials of a balanced supplement for cattle or sheep. This helps the animals to get top feed value out of their entire ration. It pays to use PROCADIAN Urea in all your ruminant feeds. Order PROCADIAN Urea today!

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Sales offices in leading farm areas

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Universal
BUCKET ELEVATORS

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WHO COMPARES

Universal Bucket Elevators Offer:

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BOX 101, CEDAR FALLS, IOWA

West Virginia and Acceptable for Registration.

A. No commercial feeding stuff will be accepted for registration containing in excess of 3% limestone or any mineral calcium compound, except poultry feed which may contain 6% and hog feed which may contain 4%. (This rule does not apply to supplement feeds.)

B. No dairy, beef or sheep commercial feeding stuff containing more than 15% crude fiber will be accepted for registration.

C. No poultry feed containing more than 8% crude fiber will be accepted for registration. (This does not apply to supplement poultry feeds or to pullet developer feed when so labeled.)

D. Pullet developer feeds, when so labeled, containing more than 20% crude fiber will not be accepted for registration.

E. No scratch feed containing more than 5% crude fiber will be accepted for registration.

F. No horse or mule feed containing more than 12% crude fiber will be accepted for registration.

G. No hog feed containing more than 8% crude fiber will be accepted for registration. (This does not apply to feed for gestating sows which may contain 16% crude fiber or to hog supplements containing more than 32% protein.)

H. No mineral or mineral mixture for livestock feeding shall have a fluorine content greater than 0.30% for cattle; 0.35% for sheep; 0.45% for swine; and 0.60% for poultry. In feeds the level of fluorine shall not exceed 0.009% for cattle, 0.01% for sheep, 0.014% for swine, and 0.035% for poultry.

I. No dog food shall contain less than 2% crude fat when computed to a dry basis. (This does not apply to specialty dog food designed for supplemental feeding in limited quantities.)

J. No dry or dehydrated dog feed containing more than 6% crude fiber will be accepted for registration.

K. No dry or dehydrated dog feed containing more than 10% ash will be accepted for registration.

L. No dry, dehydrated or canned dog feed will be accepted for registration in which the ratio of calcium to phosphorus varies beyond the following limits: 2:1 to 1:1.

M. No complete canned dog feed containing more than 74% moisture by weight will be accepted for registration.

N. No canned dog feed containing more than 6.60% crude fiber when computed to a dry basis will be accepted for registration.

O. No canned dog feed containing more than 14% ash when computed to a dry basis will be accepted for registration. Note: These percentages do not apply to specialty dog feeds designed only for supplemental feeding in limited quantities and so labeled.

No. 4. Medicated Feeds.

All feeds containing a non-nutritive substance which is intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease or which is intended to affect the structure or any function of the animal body must be labeled to show the amount of such non-nutritive substance or substances present in the feed with directions for use and/or warnings against misuse of the feed.

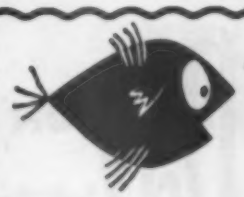
No. 5. Special Restrictions.

The use of urea and ammonium salts of carbonic and phosphoric acid are restricted to conform with the following resolution:

"Resolved, that urea and ammonium salts of carbonic and phosphoric acid are acceptable ingredients in proprietary cattle, sheep and goat feeds only; that these materials shall be considered to be adulterants in proprietary feeds for other animals and birds: and that the following statement of guaranty of crude protein for feeds containing these materials be used:

Crude protein, not less than.... Percent. (This includes not more than .... percent equivalent protein from non-protein nitrogen.)"

If the equivalent protein from nonprotein nitrogen in a feed exceeds one-third of the total crude protein or if more than 8.75% equivalent protein nitrogen, the label shall bear the

IT'S LEVENS . . .  . . . FOR QUALITY
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60% EAST COAST FISH MEAL
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Now! Book the quantity of fish or herring meal you want . . . when you want it. It's conveniently warehoused in Minneapolis to assure you of prompt delivery throughout this area. Call us soon.
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this year . . . and for years to come

MAIL THIS COUPON TODAY FOR COMPLETE INFORMATION ABOUT ARID-AIRE'S Sensational NEW *LONG TERM* LEASE PLAN. With this plan it's easier and more profitable than ever to use an ARID-AIRE grain dryer. You don't tie up your working capital—you don't borrow against your regular line of credit. You get faster depreciation advantages PLUS the business building—profit making advantages of using the safe, modern, easy-to-use ARID-AIRE grain dryer!
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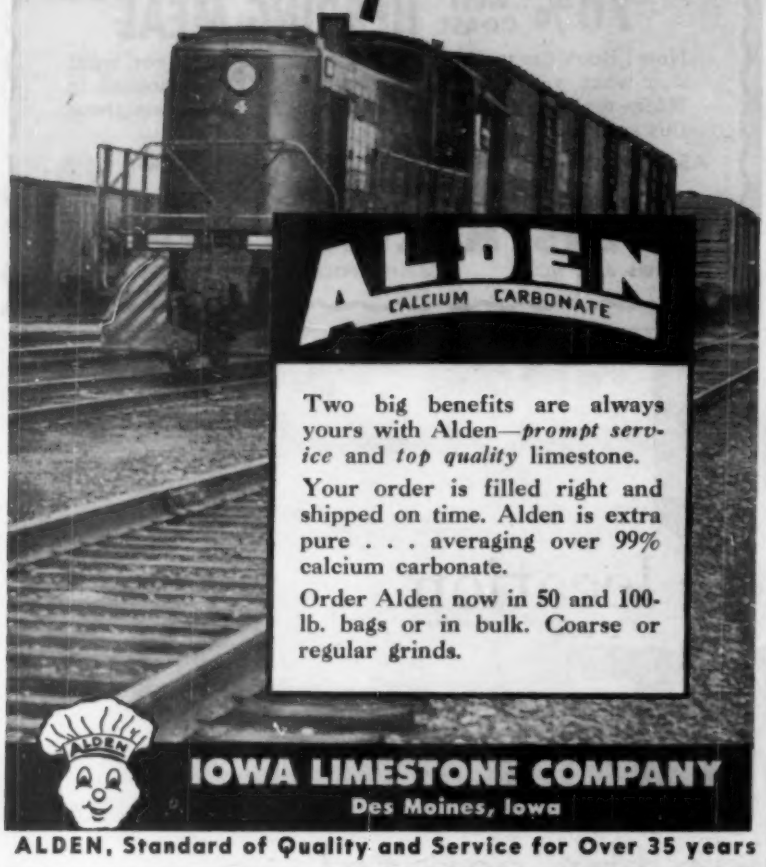

Two big benefits are always yours with Alden—*prompt service* and *top quality* limestone.

Your order is filled right and shipped on time. Alden is extra pure . . . averaging over 99% calcium carbonate.

Order Alden now in 50 and 100-lb. bags or in bulk. Coarse or regular grinds.

IOWA LIMESTONE COMPANY
Des Moines, Iowa

ALDEN, Standard of Quality and Service for Over 35 years

following statement in type of such conspicuousness as to render it likely to be read and understood by ordinary individuals under customary conditions of purchases and use:

WARNING: This feed should be used only in accordance with directions furnished on the label.

All previous rules, regulations, and standards not in accord with the foregoing are hereby rescinded and declared null and void on the effective date of this order.

Arkansas Feed Sales Show Sharp Increase

LITTLE ROCK, ARK. — The Arkansas state plant board reports commercial feed sales reported for January through March totaled 344,402 tons. The total includes the formula feeds and ingredient type feeds manufactured in Arkansas, and those shipped in from out of state.

Commercial feeds manufactured in Arkansas totaled 174,954 tons, compared with 169,448 tons shipped in from out of state. The figures reported are for the third quarter of the 1958-59 fiscal year.

For the first nine months of the 1958-59 fiscal year, a total of 1,009,772 tons was reported—up sharply from the 833,904 tons reported for the same period in 1957-58.

Details on classes of mixed feed sales for the third quarter reported by the Arkansas board include (first figure is tons manufactured in Arkansas; second figure, tons shipped in from out of state): Dairy or cow feeds, 14,657 and 20,581; cattle and calf feeds, 3,195 and 5,123; turkey feeds, 761 and 4,799; broiler, starter and grower feeds, 91,406 and 62,459; scratch feeds, 648 and 658; all other poultry feeds, 20,207 and 31,965; horse and mule and all grain, 10,616 and 1,819; pig and hog feeds, 1,583 and 6,162; and dog and other small animal feeds, 654 and 2,743.

Oregon Beef Council

SAN FRANCISCO — The Oregon state legislature has passed legislation creating on Oregon beef council, to be supported by voluntary fees for the promotion of beef on a statewide basis. The beef council, comprised of three cattlemen, two dairymen, one feeder and one handler, will be appointed by the governor from recommendations submitted by the various producer groups. The Oregon beef council is patterned along the same general lines as the California beef council.

CHICK BUSINESS HAS GONE SOUTH

ATLANTA, GA. — The hatchery business has gone South. More than half of the chicks produced by commercial hatcheries in 1958 were hatched in the South, according to the U.S. Department of Agriculture.

Ten years ago, the South turned out only a third of the total for the U.S. Twenty years ago, the South hatched less than one-fifth of the nation's chicks that were produced commercially.

The hatchery business has expanded most rapidly in the broiler-producing areas, according to USDA. The south Atlantic states last year hatched nearly 12 times as many chicks as in 1938. They produced one out of every three chicks hatched in the nation. Georgia alone produced one out of every eight. The east south central states also hatched 12 times as many chicks in 1958 as 20 years earlier.

On Jan. 1, 1959, there were only half as many commercial hatcheries in the U.S. as in 1934. The vanishing hatcheries were largely those that operated seasonally to produce chicks for replacements in laying flocks, according to USDA. Georgia and Alabama, two rapidly growing broiler states, had more hatcheries on Jan. 1 this year than two years earlier.

BS&B Promotions

KANSAS CITY — Arvid H. Edwards has been appointed advertising manager of Black, Sivalls & Bryson, Inc., manufacturer of steel products, including bins, according to an announcement by Newton D. Baker, marketing vice president. Mr. Edwards has been a member of BS&B's advertising staff since 1948. In early 1958 he was named assistant advertising manager.

John H. Boetjer has been named advertising supervisor, controls division. He has been supervisor of publications. J. D. Hughes will serve as advertising supervisor, steel products division, moving up from the publications section of the department.

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Write Us for Samples and Prices
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121 N. 4th St., Minneapolis, 1, Minn.

Dehydrated ALFALFA MEAL High Carotene
From the Fertile Red River Valley of Minnesota
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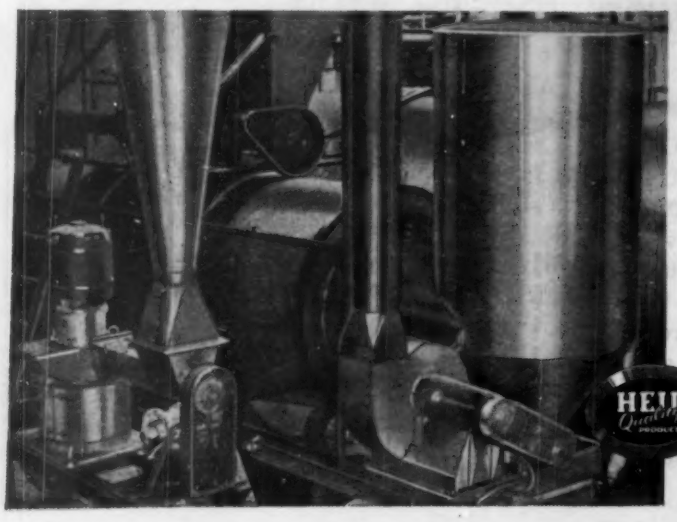
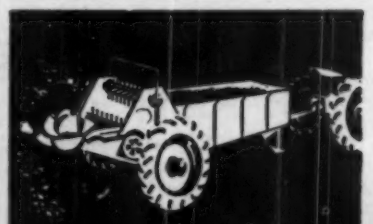
HEIL DRYERS
convert waste disposal problem into profit-making by-product



San Jose Canning Co., San Jose, Calif., uses a Heil dryer to reduce moisture content of tomato pomace from 50 to 7 percent. With additional processing it is sacked and sold to animal feed packers. Production is around 6½ tons in a 20-hour shift. Result: hauling costs are down two-thirds and San Jose earns an income from material that once cost money just to be thrown away.

A Heil dryer dries materials on a stream of hot air, with each particle correctly exposed in proportion to its moisture content. Result is quick, uniform drying. The Heil unit is compact, too, with three drying cylinders within a single drum. Write for all the facts on Heil dryers . . . capacities range from models to evaporate 500 lb up to 36,000 lb of water per hour.

THE HEIL CO.
Manufacturers of the Arnold Dryer
Milwaukee, Wisconsin
Photo courtesy of Canner/Packer Magazine



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- Soybean Oil Meal
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Feeding Effects on Egg Quality

By Dr. Elbert J. Day
Mississippi State University

EDITOR'S NOTE: There are a number of ways layer rations can alter egg appearance, flavor and nutritive value, as discussed in this article. The information was first presented as an address at the recent Southeastern Egg Quality and Grading School at Mississippi State University. Dr. Day is a member of the staff of the Poultry Husbandry Department at the university.

Usually one thinks of a high-quality egg as one that is very palatable. Palatability of a food is dependent upon the effects of such food on the senses of smell, taste, touch and sight. Obviously, then, a high-quality egg has the appearance of freshness; it has no offensive odors, off flavors or discolorations. Shell texture and strength must be adequate so that breakage is held to a minimum, and the qualities of a fresh egg are assured under proper marketing procedures.

The hen must be supplied with the proper amounts of calcium, phosphorus, zinc, vitamin D and manganese, or shell quality will be poor. Recent results obtained from tests conducted in Colorado indicate that supplementary vitamin C improves egg shell quality during periods of high environmental temperatures.

The addition of stabilized vitamin C to the ration may prove to be an economical way to partially, if not completely, eliminate poor egg shell quality which is associated with hot weather.

Another factor besides palatability ought to be taken into consideration in determining egg quality, and this is the nutritional value. Grading standards partially take nutritional value into consideration since some of the nutrients are labile and are destroyed as the egg deteriorates.

The amounts of some of the nutrients (vitamins and minerals) in an egg depend directly upon the levels that are in the ration; grading standards do not take this into consideration. Fortunately, commercial laying rations are usually well fortified with vitamins and minerals, and also, the percentage composition of the major constituents of an egg (protein, fat, water and carbohydrates) are not influenced to a great extent by the type of ration fed.

If these nutrients are not supplied in adequate amounts, the hen simply lays at a reduced rate or not at all—thus the nutritional quality is practically assured. With these thoughts in mind, the following discussion will be limited to how certain feedstuffs may affect egg quality by decreasing palatability.

Color: The normal yolk color of eggs is dependent upon the amount of xanthophyll in the ration. (Xanthopyll is a general term used to describe the carotenoids, the yellow corn, etc.) Although it is possible to formulate rations that will produce yolks that are too light even for the New York light-yolk market, eggs are rarely, if ever, discounted in price for lack of color.

Unlike the broiler industry in which over-pigmentation is not a problem, over-pigmentation, or excessive yolk color, has been a problem to commercial egg producers. Because of the known nutritive value of certain feedstuffs such as alfalfa meal, feed manufacturers have used them in excess in many instances. In the past, green feeds (pastures) were used quite extensively; excessive yolk color was a problem. Rape will produce darker egg yolks than any other green feed.

Several reports have appeared in the literature concerning egg yolk discoloration as a result of hens consuming excessive amounts of various feedstuffs. Olive-colored yolks have been reported to result from excessive consumption of feeding as it affects quality; green grass, grass silage, forage containing field pennycress and shepherd's purse, cottonseed or cottonseed products, acorns

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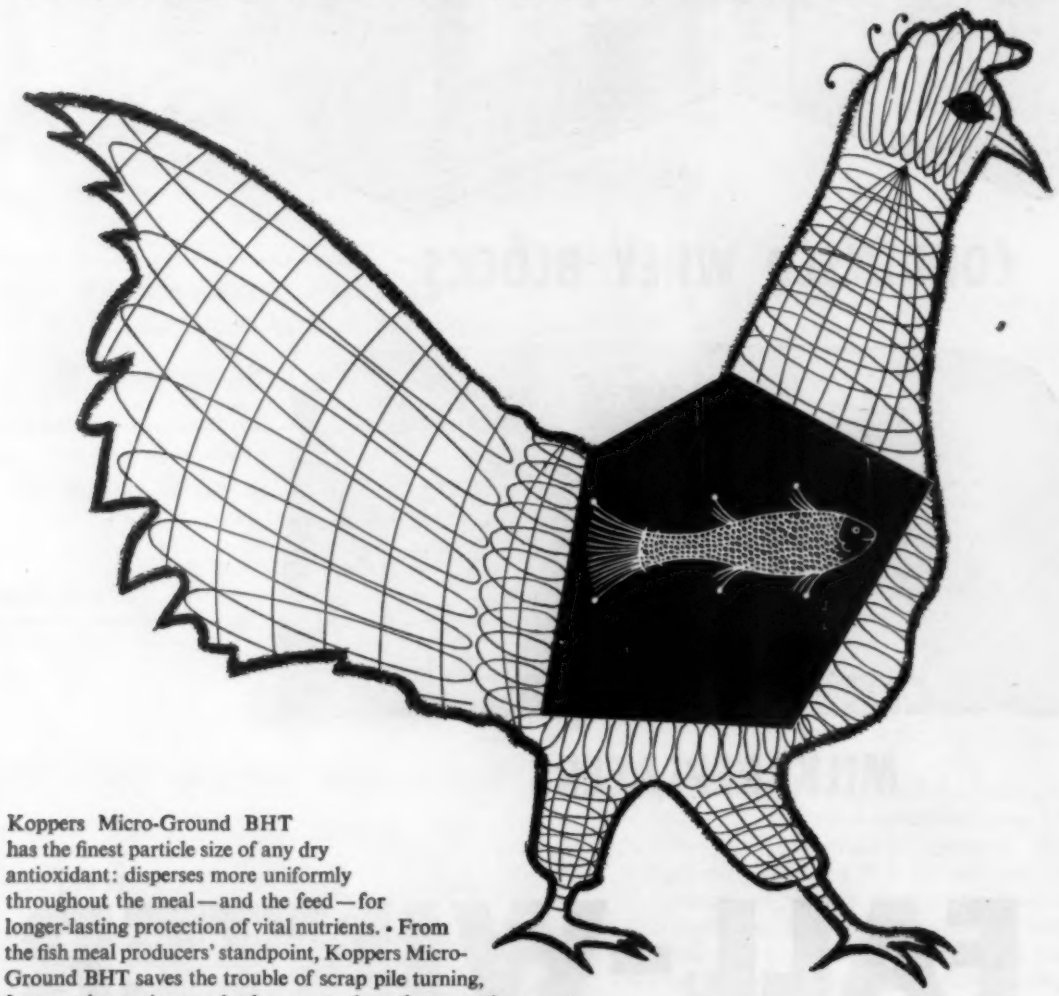

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and acorn hulls, and lobster pennycress and shepherd's purse cause olive-colored yolks. The pigment responsible for the olive-colored yolks when silage was fed appeared to be a decomposition product of chlorophyll.

Cottonseed products produce off-colored (pink) albumen also. The compound responsible for this coloration has not been completely identified. Gossypol, a constituent of the pigment glands in cottonseed is responsible for the olive yolk color. Gossypol combines with ferric iron released from the egg protein during storage; fresh eggs are not affected.

The degree of discoloration increases as the level of gossypol increases in the ration. Yolks may vary considerably in appearance, ranging from a few tiny brown spots to completely black yolks. As little as .001% gossypol may produce some discoloration, thus the safe level of cottonseed meal is a very small percentage of the ration. Some workers have mentioned the fact that flavor and smell are disagreeable, the albumen is watery and the vitelline membrane is thin as a result of feeding cottonseed meal to hens. However, most workers agree that cottonseed meal affects quality only by its effect on color.

Nicarbazin at very low levels (.005%) increases the incidence of yolk mottling (mottled yolks have recently been reported to be a natural incidence by the Merck scientists). Although Nicarbazin and cottonseed meal discoloration are quite similar, except the storage period is not necessary to develop the off-color with Nicarbazin. One should discontinue use of Nicarbazin one week prior to onset of egg production if it is fed to pullets.

Flavor and smell: Fishy flavor resulting from the use of fish oils, fish meal or both has been reported; however, several stations have repudiated this claim. Other penetrating odors such as onions, kerosene, paints and benzene hexachloride will cause off-flavors also.

The Massachusetts station noted that some hens in a flock produce off-flavored eggs (fishy). It was definitely shown that it was not due to the feed, but was believed to be an inherited trait.

Rape, turnips, cabbage, shepherd's purse, codliver oil and garlic, when fed at high levels, have been reported to produce a strong flavor in eggs; however, from a practical viewpoint none of these are of any importance since most of our layers are kept in confinement and these products are of no great importance as far as feedstuffs for layers are concerned.

Freshness: The vitelline membrane and the thick white both aid in stabilizing the yolk, giving it height when the egg is broken and not the flattened appearance of an old egg. Several nutritional observations concerning egg quality have appeared in the literature. Very low protein rations have been reported to result in a lowering of the albumen index, while rations containing excess animal protein tend to weaken the vitelline membrane.

Rye, according to a Wyoming station report, results in a lower ratio of thick white and a lower ratio of yolk index causing the eggs to appear aged. No appreciable difference was found for the other grains, however. Other factors, such as breeding and handling, are believed to affect albumen and yolk quality much more than they are affected by feeds.

Some very interesting results were recently reported by the workers at the University of Maryland. These workers reported that albumen quality was markedly improved by supplementing the feed with acidifying substances (3% NH_4Cl or HCl). These results are probably the first to illustrate that interior egg quality or exterior quality can be improved by dietary modification.

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Tests Show Firmness, Color of Pork Improved By Ration, Exercise

MADISON, WIS. — If acidity of pork muscles increases too much after slaughter it can have some rather drastic effects on the firmness and color of the chilled pork, according to recent University of Wisconsin research. This change can be influenced experimentally by the type of ration fed and by exercise of the hogs just before slaughter, the research shows.

Further studies may give practical ways to use ration and exercise to prevent soft and poorly-colored pork.

Tests by Dr. E. J. Briskey, Dr. R. W. Bray, W. G. Hoekstra, P. H. Phillips, and Dr. R. H. Grummer suggest that the amount of water held by the proteins of muscle fibers has a great deal to do with the firmness and color of pork.

When the proteins release the water they hold, the fibers condense. Light rays reflect from the surface of the fibers to give a lighter color. This bound-water loss also tends to make the fibers flabby.

The amount of a material called glycogen in muscle is related to pork texture and quality. Muscles with much glycogen are likely to turn light colored and soft. As a rule, the more glycogen present, the more acid is released during chilling. Then, in the presence of higher acidity, the proteins in the muscle fibers give up their bound water and the muscle condenses.

Large amounts of sugar in the ration produced a high glycogen content in the meat, the researchers reported.

Exercising before slaughter gave darker and firmer muscles for pigs on all rations. Exercised pigs on low carbohydrate rations had the darkest muscles.

Progress Reported in Search for Control Of Epidemic Tremor

KANSAS CITY—A three-year research project on epidemic tremor control may soon produce industry relief, according to a report from the American Poultry & Hatchery Federation, sponsor of the project.

Propagation of AE in tissue culture, after many unsuccessful trials, has become possible, researchers at the University of Connecticut say. Plans have been laid for field vaccination trials. Additional work will be needed, however, to follow through on the laboratory results. Effectiveness of the vaccination in parent stock can be judged only by the performance of the offspring in the field, a matter of months and perhaps years, the scientists indicate.

The research work at Connecticut has been carried forth by Dr. Erwin Jungherr and Roy Luginbuhl, using a fund of $29,400 raised by the subscription method by APHF from hatcherymen. The project is in its third year, and additional funds likely will be required to finish the work.

The first important finding was that the AE virus could be grown in embryonated chicken eggs like many other viruses, e.g., Newcastle disease virus. This, however, was possible only in eggs from AE susceptible, and not from immune, parent stock.

By testing samples from different breeding flocks in various parts of the country, it soon developed that most of the adult flocks were actually immune. This finding changed the entire concept of the distribution of the disease. It seems now that the occurrence of the disease in chicks really constitutes the exception.

Affected chicks come from the relatively rare, susceptible parent stock. This would explain the progressive decrease of the disease in successive hatches from the same flock, probably an expression of self immunization of the parent stock.

Since AE immunity of the parent stock is of paramount importance for the control of this disease, research efforts were made in the direction of producing safe vaccines, and detecting the flocks where such vaccine should be used.

Live vaccines have been made from egg-propagated virus and given by inoculation and in the drinking water. A rather high incidence of the disease, due to vaccination, was observed in the work conducted at Storrs.

Inactivated virus vaccines made from egg-propagated material and given by injection into the leg muscle, have produced excellent immunity when exposed to a live virus, in comparison with the nonvaccinated controls.

The tissue culture virus is of lower pathogenicity for chicks than the egg-propagated material and, therefore, promising as a vaccine.

EGG PROMOTION—Designed to attract the eye of the traveling public this summer and fall, these full-size, full-color billboards, featuring eggs for breakfast represent the latest efforts by Wirthmore Feeds, Inc., Waltham, Mass., to stimulate egg consumption. The new highway signs are being erected in several northeastern states and will also be displayed on main arteries leading to major farm shows this fall.

Merits of Arkansas Egg Law Pointed Out

LITTLE ROCK, ARK.—The new Arkansas egg-grading law will help improve the markets by insuring buyers of getting "a good, honest egg" at their favorite grocery, says Dr. David Ibsen, state veterinarian.

The law requires the grading and stamping of all eggs sold at the retail level, and specifies that no eggs below U.S. Department of Agriculture Grade C may be sold.

"In the past," Dr. Ibsen said, "a provision allowing the sale of ungraded eggs provided a loophole in the law."

Dr. Ibsen said the act, which was sponsored in the last General Assembly by the state's poultry and egg interests, will improve the quality of eggs produced in Arkansas. He also believes the law will help Arkansas producers compete with cheap, inferior eggs shipped in from other states. He noted that the new law applies to out-of-state eggs, also.

Although the state veterinarian has over-all charge of the program, inspection will be under the supervision of Wade Barron of the Sanitary Livestock Board's egg division.

WATER CONSUMPTION

LAFAYETTE, IND. — The higher the temperature is, the more water a cow will drink. Purdue University dairy scientists say that up to 80 degrees, the ratio is about 4 lb. of water for 1 lb. of milk.

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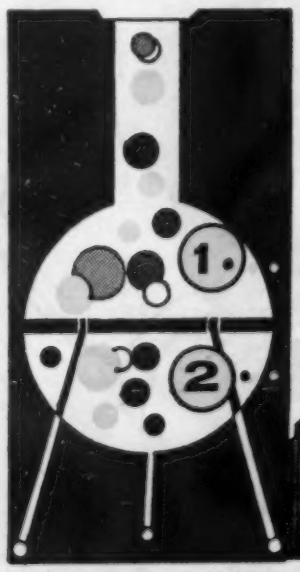

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AVERAGES		6.7 ↓	6.7	60.5 ↓	60.4
Station Testing	Main Ration Ingredient	Federal Grade Value* No Stil.	Fed Stil.	Dressing Percent No Stil.	Fed Stil.
Colo.	Corn-barley	7.0	6.9	58.8	58.6
Colo.	Corn-milo	7.7	7.4	63.2	61.8
Colo.	Corn	7.3	8.0	60.4	61.0
Fla.	Corn-citrus	8.0	7.4	61.6	61.3
Fla.	Corn-citrus	7.4	6.8	61.4	60.8
Fla.	Corn-molasses	7.2	6.2	61.4	61.3
Fla.	Corn	3.5	3.5	59.9	60.6
Ill.	Corn	8.9	8.1	64.4	63.4
Ind.	Corn	7.3	6.6	—	—
Iowa	Corn	8.0	8.4	60.7	60.8
Iowa	Corn	6.5	6.4	60.0	60.5
Iowa	Corn	7.0	7.2	58.4	58.3
Iowa	Corn	7.0	6.6	61.3	61.5
Iowa	Corn	7.0	6.4	61.8	61.2
Iowa	Corn	8.0	7.6	61.9	61.3
Iowa	Corn	7.5	7.7	59.0	59.1
Iowa	Corn	7.4	7.4	59.2	59.1
Mich.	Corn	6.7	7.4	61.9	62.0
Mich.	Corn	6.7	6.7	—	—
Minn.	Corn	7.7	7.0	59.7	59.0
Nebr.	Corn	8.8	8.6	64.0	63.2
N. Car.	Corn	7.4	7.6	60.6	58.4
S. Dak.	Corn	7.1	7.4	59.7	59.7
Tenn.	Corn	2.0	3.0	—	—
Tenn.	Corn	5.0	6.0	—	—
Tenn.	Corn	6.0	7.0	56.3	55.6
Ga.	Cottonseed hulls	3.6	4.1	55.0	56.3
Iowa	Stalk silage	7.0	6.6	61.3	61.5
Okla.	Sorghum silage	6.3	6.8	60.8	60.5
Tex.	Sorghum silage	5.6	5.6	62.5	62.7
Tex. Tech.	Cottonseed hulls, loose	5.0	4.7	63.4	63.6
Tex. Tech.	Cottonseed hulls, pelleted	6.0	5.9	62.4	65.2
Va.	Grass pasture	—	—	55.0	55.5
Wyo.	Beet pulp–hay	—	—	58.7	58.5

*Grades based on following numerical values: 8-Choice; 7-Low Choice; 6-High Good; 5-Good; 4-Low Good; 3-High Standard; 2-Standard.

"Buyers like my Stilbosol-fed cattle"

Benson has never had any trouble finding a good market for his 1500 head of Stilbosol-fed steers and heifers.

by Eugene S. Hahnel

Mr. H. E. Benson was one of the first to use Stilbosol-fortified supplements. Every ton of cattle supplement he buys (and has bought since early 1955) has Stilbosol in it. Here's what Mr. Benson told us almost four years after our first visit to his farm:

"We have never wanted to quit feeding supplements with Stilbosol. Our cattle gain so much faster, eat and stay on feed so much better, and seem to end up with a finer bloom and finish when they're fed Stilbosol rations."

Mr. Benson markets about 300 head a year. "I usually truck my cattle to Chicago when they weigh about 1250 pounds. The buyers there certainly like them and keep wanting them," he smiled, ". . . and I do, too. In the final shuffle, my Stilbosol-fed cattle make me more money, and that's the important point!"

Who influenced Benson's decision to buy?

According to Mr. Benson, two people influenced his early decision to try Stilbosol. "A feed store in my county got me started using Stilbosol," he related, "and also, my son-in-law, who was attending college, really sold me on the value of Stilbosol."

It is interesting to note that Mr. Benson says he was "*sold*" on the value of Stilbosol supplements. Two people, interested in his operation and equipped with the necessary facts, took the time to show him a more profitable way to feed cattle. Mr. Benson has told us *how* he was sold, and what *keeps* him sold.

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Feed Dealer Describes Plans For Egg Marketing Program

'We think this is the farmer's chance to get in on vertical integration benefits and still maintain his independence.'

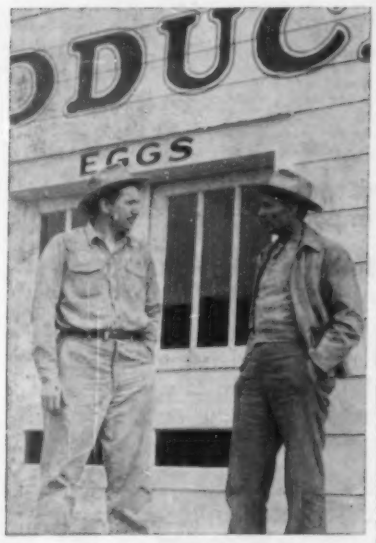
By Al P. Nelson
Feedstuffs Special Writer

Earl (Budd) Hoglund, operator of Kasson (Minn.) Elevator Co., has launched an egg marketing program which Mr. Hoglund says will enable the farmer to participate in the benefits of vertical integration, and yet retain his independence.

The feed dealer plans to get 30 farmers to participate in the quality egg program, which will make it possible for him to ship a semi-trailer load of eggs to a Philadelphia market every day of the year. The first housing unit for 8,000 Hy-Line layers is being built, and Mr. Hoglund expects farmers in his program to begin egg production Oct. 1.

The eggs will be graded and shipped from T.G. Produce Co., Kasson, owned and operated by Les Tietje.

Under Mr. Hoglund's program, the farmer does not sign a contract binding him to buy feed from Kasson Elevator Co. or to sell his eggs to T.G. Produce Co. The basic philosophy behind Mr. Hoglund's plan is to help the farmer establish large flocks to produce quality eggs through aid in obtaining proper financing, building an efficient production unit and providing a quality market. For this technical and business aid, it is hoped that the farmer will buy his feed from the Kasson Elevator Co. and sell his eggs to the T.G. Produce Co. Being independent in this quality egg program, the farmer can buy and sell where he will, but Mr. Hoglund and Mr. Tietje plan to make their offers so attractive that the farmer will continue to deal through them.



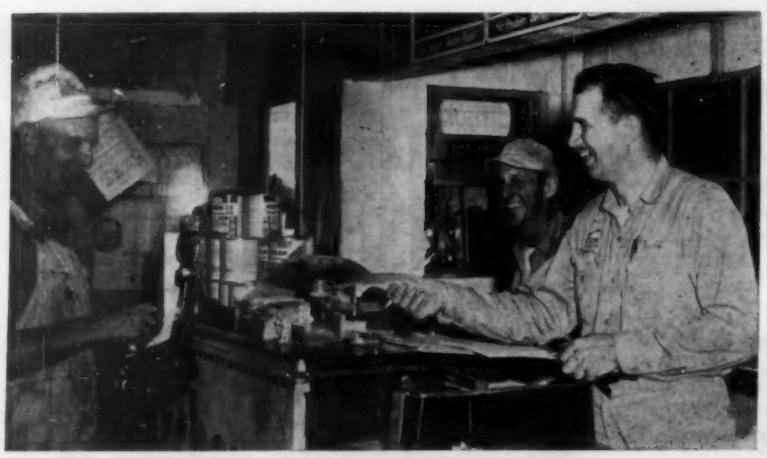
STRICTLY BUSINESS—Mr. Hoglund (left) talks with Les Tietje, owner and operator of T.G. Produce Co., who will grade and ship eggs produced through program set up by Kasson (Minn.) Elevator Co.

High Quality Egg

To succeed, says Mr. Hoglund, this plan calls for a high quality egg. The Philadelphia market demands a fresh egg with uniform shell color and texture and a uniform interior. Mr. Hoglund believes that this can be done best by starting and maintaining flocks using one high grade hybrid and one uniform grade of feed. Egg producers entering the program would be required to use the same hybrid pullet and the same feeding program as the rest of the flocks in the program. From random sample tests across the nation, reports Mr. Hoglund, the Hy-Line pullet has consistently rated among the highest in performance. That is why Mr. Hoglund said he chose this pullet as the basic hybrid stock to be used.

Through the use of high quality ingredients, Mr. Hoglund intends to produce a uniform high quality feed for all the laying flocks in his program. Each farmer will be visited frequently by Mr. Hoglund and poultry and feed specialists to give advice on maintaining top quality and performance. The farmer will be required to deliver his eggs daily to the T.G. Produce Co. After grading and packing, the eggs will be loaded in a semi-trailer truck and sent on their way to Philadelphia the same day, assuring egg quality and freshness.

The Hoglund egg marketing plan calls for the erection of modern laying houses containing room for 9,000-12,000 layers. For example, a 9,000-layer house, 50 by 200 ft., complete with equipment, will cost the farmer about $25,000. A 10,000-12,000 layer house will cost approximately $35,000, including the equipment. Arrangements have been made for financing such layer houses through the Production Credit Assn. Mr. Hoglund and his supplier, the Archer-Daniels-Midland Co., will finance the chicks and the feed.



OVER THE COUNTER—Earl (Budd) Hoglund (right), Kasson, Minn., feed dealer, transacts business with feed customer in office of Kasson Elevator Co. plant. Mr. Hoglund has plans for an egg marketing program, in which he anticipates 30 farmers will participate initially.

FEED PLANT—This is the feed plant operated by Earl (Budd) Hoglund, Kasson, Minn., who has announced plans for an egg marketing program which he says will enable the farmer to participate in the benefits of vertical integration while remaining independent. At far right are grain driers of Kasson Elveator Co.

Insofar as the Kasson Elevator Co. is concerned, 30 farmers in such a quality program buying feed through the mill would mean a production of about one carload of feed per day.

The floor system will be utilized in each layer house. Two thirds of the floor space will have slatted floors and the remaining third will be set aside for dust and litter collection.

Mr. Hoglund figures about 70% annual production for a 10,000-layer flock. A competent poultry service, supplemented with assistance from Hy-Line Poultry Farms, will be provided farmers cooperating in the marketing plan.

Mr. Hoglund notes that the quality egg marketing plan can save a producer some labor costs. For example, he says, if a farmer had 10,000 layers and marketed his eggs independently, he would need an extra person to candle eggs. Under Mr. Hoglund's plan, however, T.G. Produce Co. can do the candling for 30 flocks with seven candlers.

"No Speculators"

"We are not looking for speculators on this deal," Mr. Hoglund states. "We think this is the farmer's chance to get in on vertical integration benefits and still maintain his independence. We work on the theory that if we can encourage farmers to produce more quality eggs, we'll benefit too, and then it's up to us to continue to sell him our merchandise and services on a competitive basis."

Mr. Hoglund says the 10,000-layer flock under a quality egg program can solve the small farm problem for many farmers. It is a well known fact, he states, that a farmer who has a 160-acre farm, can make a fair living from its operation, but there is usually not sufficient income from the same farm to provide an adequate living for the parents and a son's family, too. Under the quality egg program, a 10,000 bird flock, properly managed, can provide a satisfactory income for a father and son, without their buying additional land, Mr. Hoglund states.

In selling the quality egg program to 30 farmers, Mr. Hoglund is looking for only proved, responsible farmers who have good credit ratings and who can see the opportunities in his long range program.

Mr. Hoglund is equipped to handle the tonnage requirements for the egg program when the 30 poultrymen get into production. His mill has a 75 h.p. Jacobson hammer mill, a 28 inch Diamond attrition mill, a 2-ton Strong-Scott mixer and a one ton Kelly Duplex mixer.

He also has a Dodgen bulk truck and two grain driers. One is a Campbell drier, the other is an Arid Aire. Elevator and government storage totals 110,000 bu. Grinding and mixing charges total 15¢ cwt. For feed taken in bulk, mixing is free. Archer feeds are stocked by Kasson Elevator Co.

"We can easily expand our equipment plan when the egg prgoram gets operating on a large scale," states Mr. Hoglund. "The quality egg market is waiting, and it is our job to get this quality idea across to the far-sighted farmers. There is no reason why the feed dealer, the produce dealer, the alert farmer and the local lending agencies cannot cooperate for mutual benefit in supplying quality eggs. Such a plan would increase the farmer's dollar income, stabilize his affairs, and certainly should provide a better market for sale of feed and related farm merchandise.

"The farmer cannot do this job alone, neither can the feed dealer nor the produce dealer. It requires cooperation, planning and efficient production to supply the premium egg market. It is surprising the interest Mr. Tietje and I have stirred up among egg producers in this area by stressing the advantages of this long range marketing plan."

Mr. Hoglund was born and reared in Minnesota. He is a University of Minnesota graduate in chemical engineering. He also received a master's degree at the University of Minnesota.

After several years as a chemical engineer with E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., Mr. Hoglund decided to go back to the Midwest to enter agricultural marketing. He bought the Kasson Elevator two years ago.

ON THE FARM—Earl Hoglund (right) discusses layer house location with a farmer. Construction has been started on the first of a number of units which will house layers producing eggs in a program promoted by Mr. Hoglund.

Contract Operations In Eggs Increase in Northeast Alabama

By Special Correspondent

ALBERTSVILLE, GA.—Despite the long price slump in eggs, the number of laying hens in northeast Alabama seems to be holding level or slightly increasing. Several mill owners have recently put out large numbers of birds on contract.

Within the last month the Buckner Feed Mill of Oneonta has started around 200,000 layers, about 30% of which are on contract. The company was already growing replacement pullets for layers.

Another company, the Elrod Feed & Grain of Arabala, increased its number of laying hens to over 50,000.

A number of feed company owners have been adding layers because they want to offset possible losses in feeding broilers. They note that laying hens, once they are in production, will bring in money each week, whereas the owner gets paid from broilers only every nine or ten weeks when the birds are sold.

One field representative, Breece Barley, who represents the Bradshaw Supply of Albertsville, says most mill owners are seeking some way of diversifying their feed business.

"Most of the men I call on are trying to find something that will bring in a profit when broilers hit price bottom. Egg prices seem to be on the upgrade now, whereas the future for broilers is very uncertain. Several mill owners and managers are looking for other types of poultry or livestock in order to provide better year-around feed sales."

New Division Manager Named by SECO Firm

GOODLETTSVILLE, TENN.—Andrew Miller has been appointed division manager for SECO Manufacturing Co. in the northeastern U.S., according to an announcement by Paul Zimmerman, executive vice president and general manager of SECO. The firm manufactures mobile feed mills.

Andrew Miller

Mr. Miller, of Buffalo, N.Y., is an experienced mobile manufacturing representative. Prior to joining SECO, he was sales manager for a New York telephone company and was associated with the Carborundum Co. as a production and sales engineer.

Ray Elder Joins Butler As Product Engineer

KANSAS CITY — Ray Elder has been appointed product engineer for square bolted steel tanks at Butler Manufacturing Co., Kansas City, according to Don F. Shimon, chief products engineer for the farm equipment division of the firm.

Ray Elder

Mr. Elder will provide technical information to Butler bolted tank contractors and customers on the structural variations practical for different types of square tank installations. He will also supervise product improvements and promote developments in bulk storage and handling of dry bulk commodities.

Butler square bolted steel tanks, introduced slightly more than a year ago, are now in use throughout the country as bulk load-out tanks at feed mills, bulk feed depots and at new or replacement country elevators.

For the past 13 years Mr. Elder, a civil engineering graduate of Oklahoma State University, has been associated with Horner & Wyatt, consulting engineer, a Kansas City firm that designs and supervises construction of grain and feed installations throughout the country.

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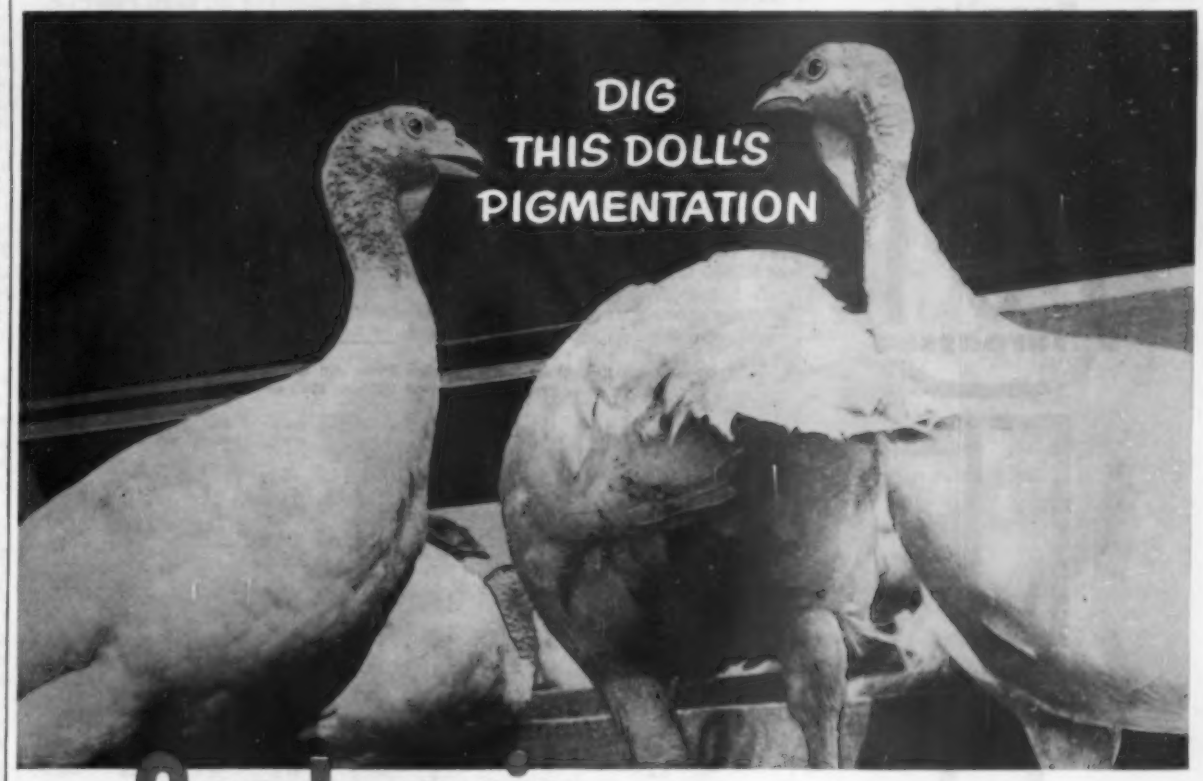

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May Feedstuffs Use Larger Than Year Ago

WASHINGTON — May's consumption of feedstuffs, 1.6 million tons, was about 68,000 tons above the total for the same month a year earlier, but off 16,000 tons from April, the U.S. Department of Agriculture said in a recent feed market summary. Consumption so far for the season, October-May, totaled 13.7 million tons, nearly 8% above the 12.7 million tons of a year earlier.

USDA said exports of oilseed meals, mainly soybean meal, totaled around 360,000 tons the first eight months as against 216,000 tons for the same months of 1957-58. Imports, mostly cottonseed meal, amounted to more than 140,000 tons compared to 82,000 imported a year earlier.

Domestic disappearance of soybean meal Oct., 1958-May, 1959, was 6,131,400 tons, a substantial increase over the same season a year earlier when the total was 5,303,700 tons. Seasonal alfalfa meal consumption grew from 733,300 tons to 774,300 tons. Wheat millfeeds use slid from 3,153,700 tons for October, 1957-May, 1958, to 3,087,400 tons for the latest corresponding production season.

May consumption of oilseed meals totaled 926,000 tons, off 40,000 tons from April but 70,000 tons better than May, 1958. Cottonseed meal supplies of 95,700 tons in May were seasonally below the 156,000 tons in April but slightly above a year earlier. Soybean meal consumption during May was 784,500 tons compared with 765,000 in April and 708,700 in May, 1958. Consumption of other oilseed meals in May was at about the same level as in April.

Wheat millfeed production increased somewhat during May, reflecting large flour exports. However, total millfeed output for the season remains below last year due to the higher flour extraction rate. Supplies of other grain by-product feeds in May were a little smaller than in April.

USDA said feedstuff prices—after dropping sharply in May—fluctuated within a rather narrow range during June, but closed slightly stronger. Feedstuff prices, weighted by consumption, averaged about $1 ton higher at the end of June than at the end of May, but prices averaged about $3 ton below a year earlier.

Feedstuffs: Production, Stocks, Foreign Trade and Domestic Disappearance, May, 1959, and May, 1958 (In tons, 000's omitted)

Feedstuff	Stocks May 1*	Production	Imports†	Exports†	Domestic disappearance	Stocks May 31*
May, 1959						
Oilseed meals:						
Soybean	104.5	862.3	0	26.4	784.5	155.9
Cottonseed	166.4	85.9	14.0	0.1	95.7	170.5
Linseed	1.4	30.0	...	...	26.2	5.2
Copra	...	9.8	3.0	**	12.8	...
Peanut	5.2	7.9	0	**	6.8	6.3
Total	277.5	995.9	17.0	26.5	926.0	337.9
Grain by-products:						
Wheat millfeeds	**	367.0	4.0	0.1	370.9	**
Rice millfeeds	**	19.3	**	**	19.3	**
Gluten feed and meal	**	81.7	**	**	81.7	**
Distillers dried grains	8.9	33.5	**	**	31.7	10.7
Brewers dried grains	3.2	22.2	**	**	20.4	5.0
Total	12.1	523.7	4.0	0.1	524.0	15.7
Other feeds:						
Fish meal	**	35.6	10.0	**	45.6	**
Alfalfa meal	41.9	136.8	**	**	90.2	88.5
Total feeds	331.5	1,692.0	31.0	26.6	1,585.8	442.1
May, 1958						
Oilseed meals:						
Soybean	74.5	759.2	0	20.3	708.7	104.7
Cottonseed	189.8	81.4	3.6	0.2	91.9	182.7
Linseed	34.6	29.8	1.4	0	36.4	29.4
Copra	0.8	10.8	4.7	**	15.2	1.1
Peanut	1.1	3.3	0	**	2.9	1.5
Total	300.8	884.5	9.7	20.5	855.1	319.4
Grain by-products:						
Wheat millfeeds	**	371.2	12.7	6.3	377.6	**
Rice millfeeds	**	18.1	**	**	18.1	**
Gluten feed and meal	**	85.2	**	**	85.2	**
Distillers dried grains	2.5	23.1	**	**	22.5	3.1
Brewers dried grains	1.5	22.4	**	**	21.3	2.6
Total	4.0	520.0	12.7	6.3	524.7	5.7
Other feeds:						
Fish meal	**	23.2	8.7	**	31.9	**
Alfalfa meal	85.3	140.7	**	**	106.2	119.8
Total feeds	390.1	1,568.4	31.1	26.8	1,517.9	444.9

*Stocks at processing plants only. †Partly estimated. **Not available.

Wagner Bag Co. Sold

SALT LAKE CITY, UTAH—Wagner Bag Co., textile bag manufacturer for feed, flour and farm trade, has been acquired by St. Regis Paper Co., New York, producer of paper multiwall bags used in industrial packaging. The Wagner firm is scheduled to move into its new $1.5 million plant this fall, where its line will be expanded to include multi-wall paper bags and other paper products.

GRAIN COMPANY OPENED

LOHRVILLE, IOWA—The Lohrville Grain Co. has opened its new feed mill and store. Charles Champlin and Bill Shutt are owners and operators.

N. C. Talk Gives Pros and Cons of Started Pullets

RALEIGH, N. C.—A paper entitled, "Pros and Cons of Started Pullets," was presented recently at the Coastal Plains research station by Kenneth C. Bean, extension poultry specialist, North Carolina State College.

Mr. Bean discussed some of the problems associated with the reappearance of started pullets in the poultry industry.

The following is part of the paper he presented:

About the hottest thing in the poultry industry in the last year is the reappearance of started pullets. This phase of poultry production is not new, but it appears to have a definite place in the poultry industry now, and consequently it is being adopted by poultrymen all over the Southeast.

Since the program is relatively new, there have been a few problems associated with it; but in time these problems will be overcome. One such problem has been the differences in management between the grower and the buyer. These practices should be relatively similar to avoid any unnecessary stress being put on the birds.

An example of this is roosts. A buyer in eastern North Carolina lost 50 pullets the first night because he had no roosts and the birds had been raised with roosts. That's about $90 right there, not counting any profit he may have had from those birds.

These little management points should be considered and avoided when buying started pullets. Find out what management practices the grower has been following and try to adjust the work schedule so the habits of the pullets will not be upset.

Another problem is that of moving the birds. Moving the birds from one place to another is stress enough, but this past winter they were moved during cold, damp weather quite often; and as a result the birds have come down with some respiratory complications. Warm weather can also be a problem. Avoid moving birds in extremely hot weather. If started pullets are purchased under such conditions, be one step ahead of such complications. Be prepared for them. Perhaps something to stimulate feed intake will overcome these stress factors.

Capital Problem

Many poultrymen are faced with the problem of capital outlay required to purchase started pullets. This is one problem that the individual will have to work out to suit his particular situation. There are several ways this could be arranged if the buyer doesn't happen to have all the cash needed. If replacements can be planned far enough in advance, perhaps a grower-buyer contract can be worked out with the breeder or hatcheryman. In many

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instances a deposit of 40¢ to 50¢ per chick is made at one day of age and the balance when the pullets are delivered. Some poultrymen farm out their chicks to some other farmer who grows them out for him. The grower furnishes equipment, houses, water and labor and receives 1¢ per chick started per week with a bonus for feed used and low mortality. Perhaps a plan similar to one of these may be appealing, or perhaps started pullets will not even be considered.

Another problem is that of knowing a reputable grower. Since this is a relatively new field, finding established growers can give trouble.

There are some other problems associated with started pullets. One such problem is disease hazards. One poultryman I know of bought 1,000 started pullets to replace part of his 4,000 bird flock. About 10 days after the pullets arrived, the old birds came down with an unknown respiratory disease. All birds had been vaccinated. The condition brought on a 6% mortality and a 40% drop in egg production in the old flock, and they never fully recovered. Maybe this wasn't caused from the started pullets, but these things can always be checked beforehand.

Started pullets have some good points also. One advantage is that of a uniform work schedule the year-round. Chores will be the same. There isn't the need to let the hens go to grow out pullets or vice versa. If labor is hired, this would be a particular advantage.

Another point in favor of started pullets is that of uniform pullets. When pullets are delivered, the buyer can usually cull them himself as they are unloaded. Any that don't suit him can be discarded. He ends up with the desired number.

This program also allows for the full-time use of equipment. Part of the equipment is not out of use while growing replacements. Full use of equipment and houses is necessary in order to get the most for the investment.

Specialization

Still another point is that of specialization. Today's poultry industry is becoming more and more specialized and this is the case here. The grower makes raising good pullets his specialty and the buyer makes managing layers his.

Whether the buyer adopts a started pullet program or not is up to him. A good pullet will cost about $1.70 at 16 weeks of age or around $2.10 at 20 weeks of age. I wouldn't advise buying them any younger because of vaccinations, longer time to realize returns from the investment, and actually the buyer is in a sense raising pullets if they are bought much younger than 16 weeks.

A good rule-of-thumb for determining price is that of allowing 10¢ for the chick and 10¢ per week for growing. Consequently, a 16-week-old pullet would cost $1.70. How does the price compare?

Study the operation carefully as to returns per hour of labor, and then ask this question, "Can I earn more by managing more layers full time than I can by taking part of my time and facilities to raise pullets?"

Wallerstein Opens New Office Building

STATEN ISLAND, N. Y. — The Wallerstein Co. has opened its new administration building at Mariners Harbor, Staten Island. The building houses the executive, sales and general offices of the company. This is the first time in forty years that the offices, manufacturing facilities and laboratories have been located together at the Wallerstein plant site, according to company officials.

The company just recently introduced "Poultzyme," an enzyme for upgrading barley. Company officials say by adding a small amount of Poultzyme to barley, weight gains and feed efficiencies equivalent to those of corn are obtained.

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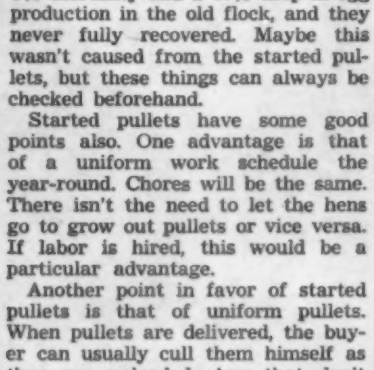

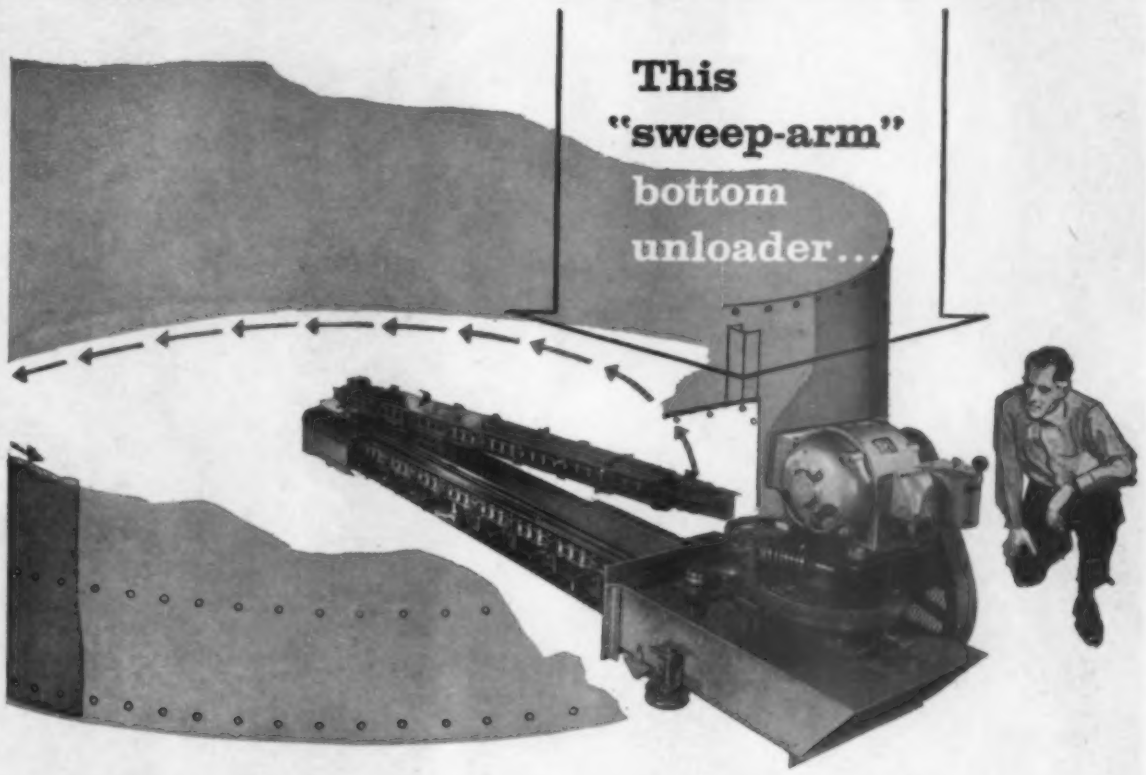

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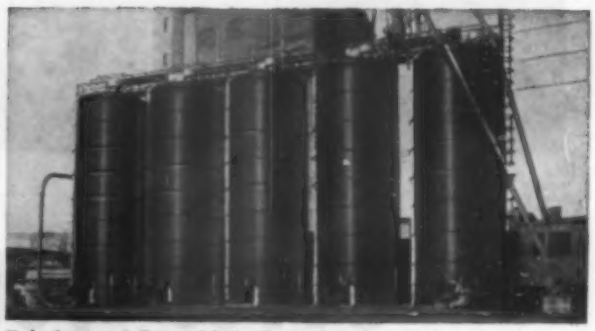

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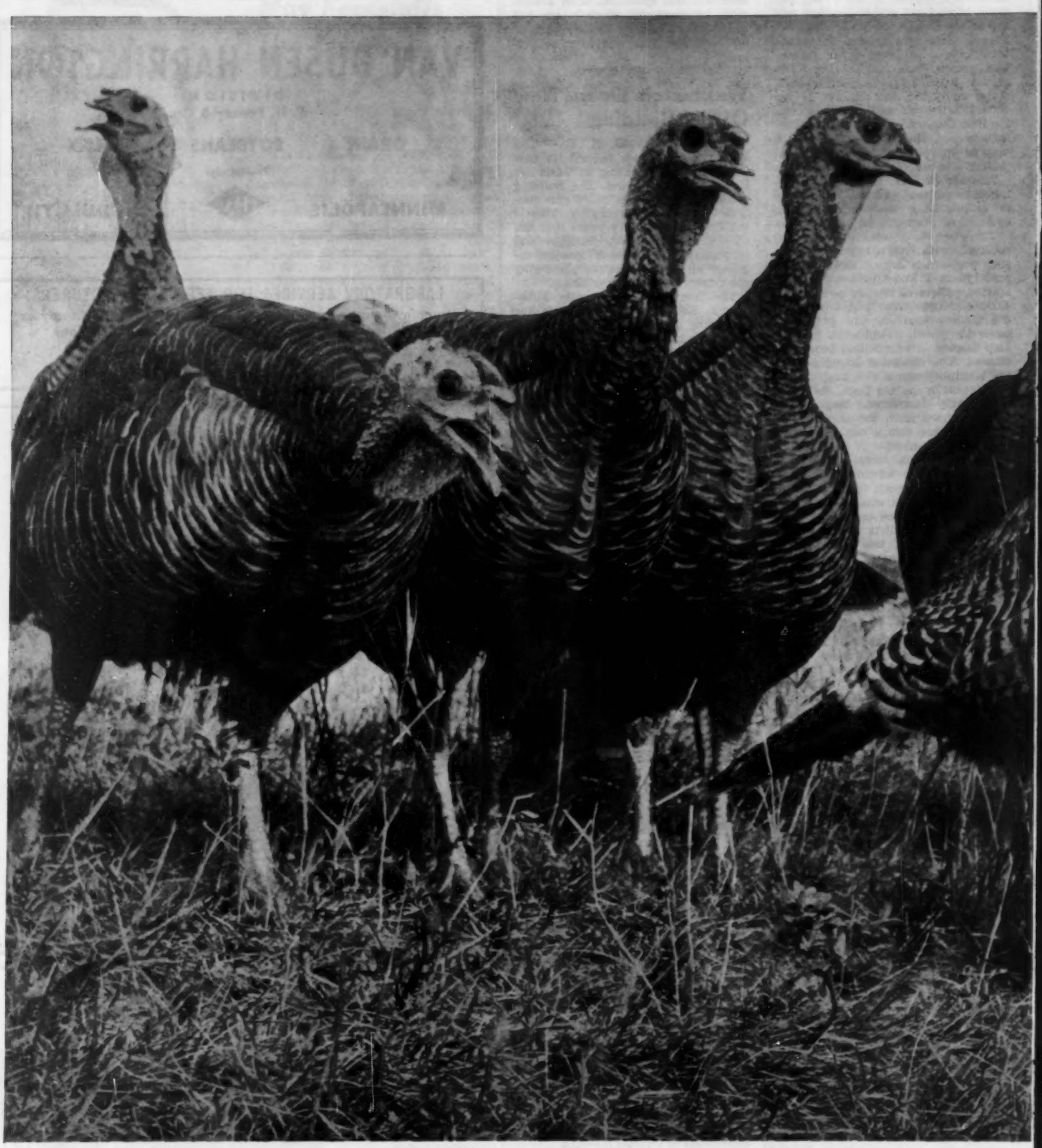

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The recommended level for *treating* outbreaks of blackhead is 0.05% Acetyl ENHEPTIN (6.6 lbs. ENHEPTIN-A Premix 15% per ton of feed).

More and more feed manufacturers are finding it good customer service to incorporate ENHEPTIN-A Premix 15% and recommend it for control of blackhead.

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Milk Flavor Problems To Receive Study

RALEIGH, N.C. — The American Dairy Assn. is devoting part of its research program to the development of additional information that might help answer some of the current questions in the fluid milk field, according to a recent release.

New methods of isolating and identifying feed flavor compounds are being developed in a project at North Carolina State College under the direction of Dr. L. W. Aurand. The study will include the analysis of different pasture crops, silage and hay crops as well as the milk produced on these various feeds.

Another phase of the project will be devoted to determining methods for removing such flavors from milk without changing its natural flavor.

INCORPORATION CHARTER

DOVER, DEL. — Busboom Grain Co. has filed a charter of incorporation with the corporation department of the secretary of state's office here. Authorized capital stock of the firm is $75,000. Corporation Service Co., Delaware Trust Building, Wilmington, Del., is serving as the principal office.

"I'm not wealthy and I don't have a yacht and a convertible like Jerome Green," apologized the suitor. "But, I love you."

"And I love you, too," replied the girl. "But tell me more about Jerome."

◆ ◆ ◆

If you are rich, and drink, you're an alcoholic. But, if you're poor, and drink, you're a drunk.

◆ ◆ ◆

Steno: I have an awful cold in my head.

Boss: Well, that's something.

◆ ◆ ◆

A ragged tramp entered the doctor's office. He looked worried. "Doc," he said, "you've got to help me. I swallowed a quarter three years ago."

"Good heavens, man!" exclaimed the doctor. "Why didn't you come to me sooner?"

"Well, to tell the truth," replied the bum, "I didn't need the money until now."

◆ ◆ ◆

The car was crowded and the conductor was irritable.

"Where is the fare for the boy?" he snapped as the father handed him one fare.

"The boy is only three years old."

"Three years! Why, look at him. He's seven if he's a day."

The father leaned over and gazed earnestly at the boy's face. Then he turned to the conductor.

"Can I help it if he worries?" he asked.

◆ ◆ ◆

"John," said the woman to her slightly flushed husband as they left a large cocktail soiree where he had been the life of the party, "did anyone ever tell you how fascinating—how romantic—how handsome you are?"

The man looked at his wife, pleased. "Why, no, dear, I don't think anyone ever did."

"Well," she snapped, "then where did you ever get the idea?"

◆ ◆ ◆

"Clothes," explained the tailor, "don't necessarily make the man, but a good suit has made many a lawyer."

A POINT TO REMEMBER

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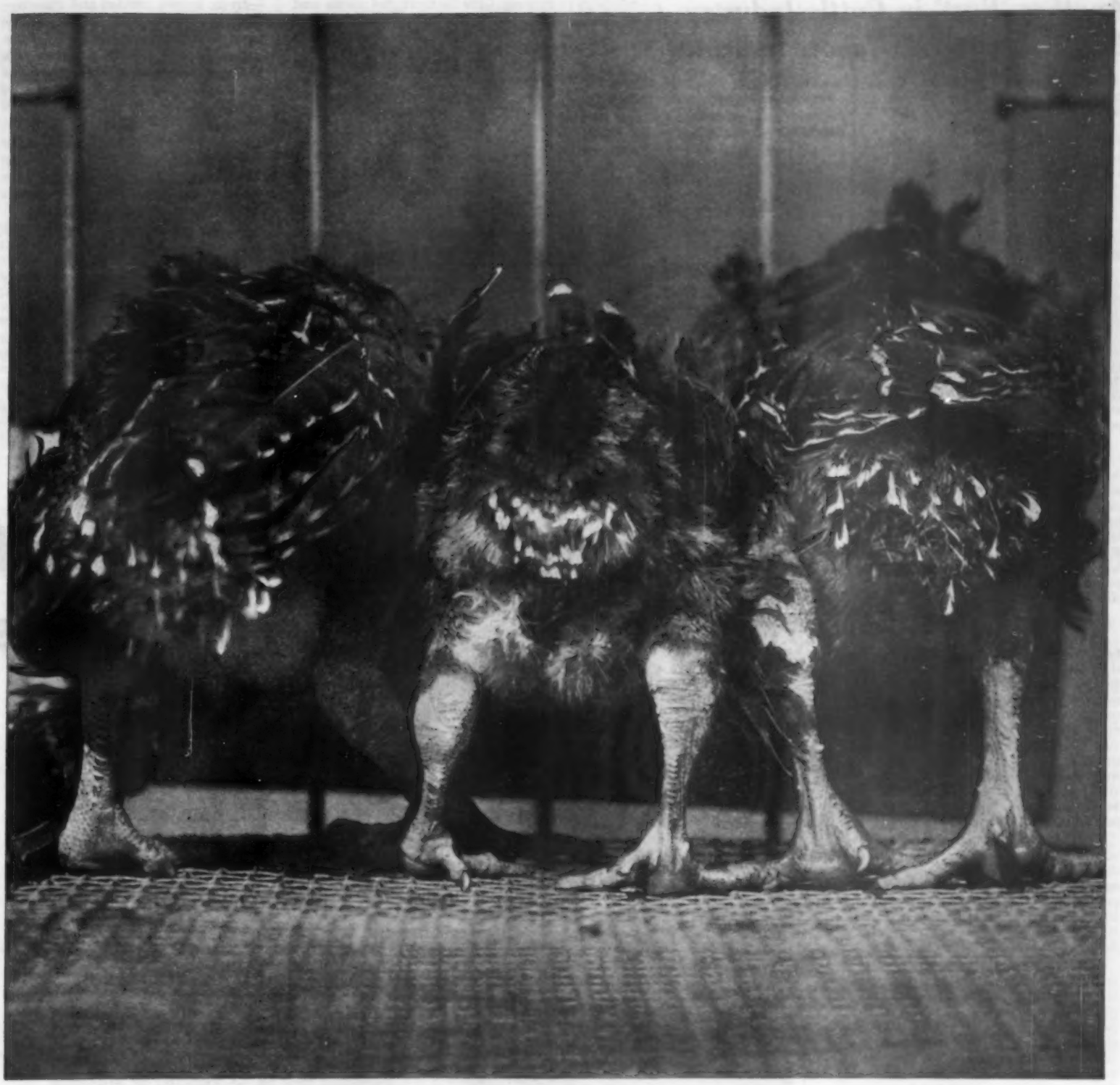

Six good reasons for adding **vitamin E**

Researchers are thinning out the suspected causes of enlarged hock disorder in turkey poults.

At least one investigator has suggested that enlarged hocks in poults may be related to the same profit-crippling problem in older birds.

On one point there is considerable agreement: it takes a combination of substances in the poult's diet to prevent enlarged hocks. And vitamin E appears to be one of those substances.

A feed manufacturer who relies on nature's tocopherols to supply vitamin E is courting trouble needlessly. He courts trouble because the tocopherol in nature is a highly unpredictable quantity. It may or may not be there to begin with. And much of it is in a form that's very low in biological activity.

His risk is needless because it costs only a few dimes per ton of feed to add *Myvamix® Vitamin E* at the mill. Then he knows the vitamin E is there, and will stay despite heat, minerals, and long storage.

Myvamix is easy to handle; dry, nondusting, fine enough to diffuse freely through the mix. Every pound delivers a sure 20,000 International Units of Vitamin E.

Now—when you're planning the feed for next year's turkey poults—is the time to get more facts and a quotation on *Myvamix Vitamin E.* Just call or write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto.

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Another 'Bust' in Cattle Industry Can Be Avoided, Report Indicates

DENVER, COLO.—Another "bust" in the cattle industry like the one in 1953 is not inevitable—it can be avoided, says a "mid-year" report from the fact finding committee of the American National Cattlemens Assn. The report was prepared by Dr. Herrell DeGraff, economist at Cornell University.

There is a question whether the necessary steps to prevent a bust will be taken by a sufficiently large number of producers. The committee says present trends indicate a break is highly probable—in fact inevitable, if these trends are allowed to run too long.

This solution is offered: If enough producers begin to cull down their cow herds this fall, next year's calf crop could be proportionately checked and the excessive expansion now in progress could be slowed down.

Increased marketings of cows would result in somewhat lower cow prices during the coming fall months, the association's committee notes, and no producer would like to see this happen or contribute to its happening. On the other hand, the report warns, if the build-up continues at a rate of 5 million head or more per year, cow prices will drop sharply sometime in the next couple of years.

"Skinning Dimes"

"Any producer who can tally his herd and be concerned with his capacity to carry his present number through times of either lower price or normal feed products, has now an unusual opportunity to reduce his risks and improve his financial position," the fact finding committee says in its report. "Producers who persist in hanging on until they have skinned the last thin dime off this cyclical boom may well find themselves losing dollars instead of gaining dimes."

Continuing its warning, the committee comments, "If enough producers will recognize the precariousness of further rapid expansion in cattle numbers—and move this year to check their own contributions to it—any real bust in the cattle business in the next few years can be avoided."

The American National Cattlemens' outlook study group reports that with the demand for beef strong and growing, the present rate of cattle production could be balanced with slaughter—meaning no inventory increase—at an average price near $20 cwt. for all beef cattle sold by producers.

"While this is not as good as the nearly $23 that producers may average this year as a result of numbers held back for the inventory increase, it still is an attractive price which can make ranching a reasonably profitable business," the committee commented. "Furthermore, it would be a sustainable price if inventories were not increased further, beyond the amount which would keep pace with population growth — whereas present prices will bust if the cycle runs its normal course."

Build-Up Started in 1957

The fact finding committee notes that the build-up in cattle numbers has been on the move for two full years. It began in mid-1957 when month-to-month slaughter figures for cows and calves dropped significantly below the liquidation rates of the preceding years. Prices to producers for all beef cattle sold this year may average $1 cwt. more than a year ago—about $3 cwt. higher than would prevail if current production and slaughter were in balance.

For a look at what's happened in the beef producing business here is some background information taken from the association's committee report:

"Slaughter: Commercial slaughter of cattle for the first four months of this year was down 500,000 head, or 6.5%, from a year ago. Commercial calf slaughter was down 727,000 head or 21.8%.

"Because the cattle averaged 44 lb. heavier this year than last, and yielded a higher average dressing percentage (due to more fed cattle and fewer cows) the commercial output of beef was nearly 1% greater—even from the 6.5% fewer cattle . . .

"Cow slaughter has declined to the lowest level for the corresponding months since the comparable period of rapid inventory increase in 1951 and 1952. In March and April, for the first time since records are available—and probably for the first time in history—cow slaughter dropped below heifer slaughter. By contrast, fed-cattle have comprised an unusually larger proportion of total slaughter in recent months, a factor that explains the unusually high average dressing percentage which, in April, reached a record level of 57.8% . . .

"The slaughter characteristics of a rapid expansion period now exist, and experience with past cycles tells us that they will not persist indefinitely. Cow and calf slaughter—as well as increased slaughter of less-finished steers and heifers—will turn upward again. When they do the total price structure for cattle will weaken.

"Imports: Imports of beef and veal—fresh, frozen, pickled and canned—reached a level for the first four months of this year 50% above the corresponding period a year ago. However the quantity was somewhat below the annual rate of imports reached during the last half of 1958.

"Imports of live cattle, both for slaughter and feeding, were down over 40% during the first four months of this year compared to last. Live cattle come into this country almost entirely from Canada and Mexico . . . The sum of imports from the two countries is almost certain to be less this year than in 1958.

"Moreover, it now appears likely that the aggregate imports of dressed beef and veal and the meat equivalent of live cattle may be down for 1959 compared to last year by as much as the equivalent of a quarter-million head.

"Prices: In spite of total beef supplies that have been slightly above a year ago, prices for beef and cattle continue remarkably strong. The av-

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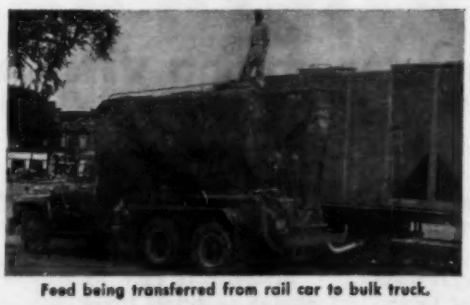
S-W self loader emptying a box car.



Feed being transferred from rail car to bulk truck.

S-W self loader mounted on stake body.

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- Load feed during a breakdown of bulk loading station elevator.
- Vacuum clean sections of your mill or help clean up customer's feed bins.

The Sprout-Waldron self loader . . whether it be an integral part of your standard or Economy Feed Piper pneumatic bulk truck, mounted on a stake or van body unit, or put to use in any one of a dozen different ways, provides you with a portable material handling device which saves time, money, and backbreaking labor . . and helps you provide the type of service needed to win and hold customers.

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JS/105M

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erage retail price for all beef through the first quarter was about 4.5¢ lb. above the corresponding period of last year. A part of the reason is that the retail supply in recent months has included an unusually large fraction of fed beef, and less than the usual proportion of products made from cow beef.

"This, however, is not the whole story. Consumer demand and preference for beef continue to be a major influence on the market.

"Another point, however, needs emphasis. Considering cattle numbers and probable marketings, and also prospective supplies of pork and poultry, it seems likely that 1959 will prove to be the high cattle-price year of this cycle. This estimate, of course, could be wrong. The height of price might come next year. But the potential further gains from 1959 levels are so modest, at best, that anyone holding cattle for further speculative price gain is certainly carrying a large and increasing risk which the market outlook does not seem to justify.

"And another point. Why are slaughter-cow prices no higher than they are? . . . Two factors might contribute to the explanation.

"One is that retail prices for hamburger have been running 5@6¢ lb. above the corresponding months of last year—and with increased supplies and lower prices for pork and poultry, a significant number of housewives may have been drifting away (relatively) from hamburger. We do know that a tendency to substitute, when price differentials favor substitution, becomes increasingly pronounced with time.

"The second factor is also a substitution. A private source which cannot be quoted has provided an estimate that the sausage making industry is now using about equal proportions of domestic cow beef, imported beef, and pork as over-all sausage ingredients—compared to 60% domestic and 10% imported beef and 30% pork three years ago. The reason for this substitution is price differential—just as it is for any substitution that housewives are doing . . ."

Pennsylvania Reports 58's Commercial Feed Tonnage of 2,488,493

HARRISBURG, PA. — Pennsylvania's commercial feed consumption last year amounted to 2,488,493 tons—including 1,714,852 tons mixed feeds and 773,641 tons ingredients.

The Pennsylvania Department of Agriculture reported in a recent bulletin that poultry feeds accounted for the greatest volume of mixed feed sales. Of the 997,831 ton poultry feed total, more than half was laying mash, 531,160 tons. Broiler feed volume was 129,820 tons.

Mixed feeds for dairy animal consumption totaled 417,262 tons in 1958. Steers and calves consumed 37,092 tons.

Other major consumers of mixed feeds were pets (118,770 tons) and hogs and pigs (64,392 tons).

The largest ingredient sales volume was done in soybean oil meal, with 171,194 tons sold during the year. Other major ingredient totals: Molasses mix, 114,426 tons; wheat bran, 71,264 tons; corn gluten feed, 64,377 tons; wheat middlings, 56,002 tons; meat and bone meal, 51,543 tons; brewers dried grains and yeast, 43,731 tons; hominy feed, 26,695 tons. and alfalfa meal, 26,369 tons.

PENNSYLVANIA MIXED FEED CONSUMPTION (1958)

Kind	Tons sold
POULTRY	
Laying mash	531,160
Broiler feed	129,820
Misc. poultry feed	107,542
Growing mash	66,481
Turkey feed	61,387
Starter	47,912
Scratch grain	47,400
Starter-grower	15,952
Duck feed	177
Sub total	997,831
DAIRY	
Mixed dairy feed, 14%	11,314
Mixed dairy feed, 16%	132,182
Mixed dairy feed, 18%	26,844
Mixed dairy feed, 20%	41,555
Mixed dairy feed, 24%	10,971
Mixed dairy feed, 32% and over	74,529
Misc. dairy feed	91,741
Fitting ration	28,126
Sub total	417,262
OTHER CATTLE	
Steer feed	17,860
Calf feed	19,232
Sub total	37,092
Horse feed	8,672
Hog and pig feed	64,392
Goat and sheep feed	549
Corn and oats chop	5,725
Mineral feeds	8,968
Pet feeds	118,770
Rabbit and mink feed	9,158
Miscellaneous feeds	46,433
Total	1,714,852

Don Kinkaid

DAWE'S APPOINTMENT—The appointment of Don Kinkaid to the position of general sales manager of feed products in the U.S. market was announced recently by Dawe's Laboratories, Inc. (Feedstuffs, July 4) Mr. Kinkaid was previously general sales manager of Hales & Hunter Co., where he was associated for 11 years.

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MODEL	HORSEPOWER	FEED OPENING	PRICE*
F-25M Gooseneck	40	18"	$ 697.04
F-27M Gooseneck	75	24"	$1665.86
F-29M Gooseneck	100-150	36"	$2183.98

Other Models from $154.00 to $408.16. All prices f. o. b. factory.
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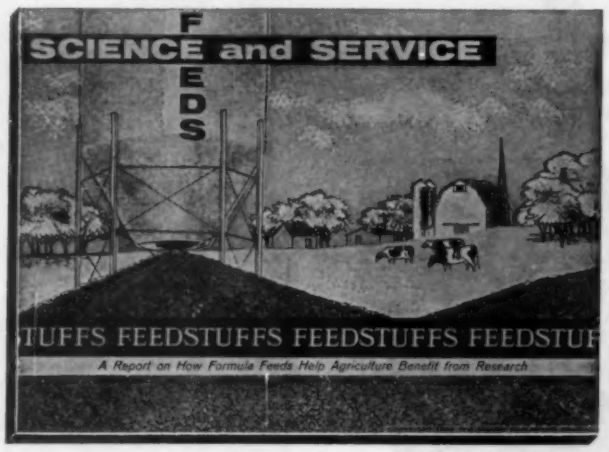
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Science and Service is a summary of special Golden Year articles in observance of American Feed Manufacturers Association 50th anniversary. Twelve outstanding feed authorities contributed to the reports which appeared in Feedstuffs during the past year and from which this booklet was compiled.

A limited number of reprints of Science and Service *are available now at a single copy price of 50¢. Larger numbers available at quantity prices, ranging downward from 35¢ each for 10 to 100, 25¢ each for 100, to 10¢ each for 1,000. Imprinting a three line company signature on back page of quantities over 100—$7 minimum. Inquire about additional quantity discounts.*

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SELLIN' SAM — By Jim Zilverberg

"Nope—they didn't care much for your feed but it did make them appreciate what they'd been getting before!"

Small Business Loans Approved

WASHINGTON—A number of business loans for feed and grain firms have been approved by the Small Business Administration, according to Wendell B. Barnes, administrator.

Among the loan approvals for feed and grain businesses are the following: Carter Grain Co., Inc., Cullman, Ala., $40,000, for shelling and storage of corn; Feeders Supply Co., Ft. Collins, Colo., $22,250, for livestock feed; Morgan-Lindsay, Inc., Eden, Idaho, $60,000, dealer in grain; Farmers Grain Co., Inc., Carlisle, Iowa, $200,000, grain dealer; Charter Oak Grain Co., Charter Oak, Iowa, $80,000, grain dealer; Fauser's Feed & Supply, Waterloo, Iowa, $40,000, feed mill; Hammond Seed Co., Inc., Ft. Scott, Kansas, $40,000, grain elevator; W. H. Way Grain Co., Fowler, Kansas, $40,000, grain storage; Anderson Grain Co., Garden City, Kansas, $60,000, grain storage; The Earle G. Wallingford Grain Corp., Olathe, Kansas, $175,000, grain storage; West Plains Grain Inc., Scott City, Kansas, $161,000, grain elevator; and Monticello Feed Mill Co., Monticello, Minn., $16,000, feed mill.

Teske Produce & Milling Service, Truman, Minn., $10,000, produce, poultry feed; Belgrade Alfalfa Mills, Belgrade, Mont., $200,000, alfalfa mill; Bellamy Grain Corp., Cozad, Neb., $100,000, grain elevator; Ruser Alfalfa Mills, Inc., Venice, Neb., $75,000, mfg. alfalfa molasses feed; Grain Elevator Corp., Camden, N.J., $350,000, agricultural products storage; Farmers Grain Co., Manvel, N.D., $25,000, grain storage; Bastrop Grain, Bastrop, Texas, $86,000, commercial grain; Grain, Inc., Corpus Christi, Texas, $340,000, grain warehouse; Southmost Granaries, Inc., Dallas, Texas, $119,000, warehouse farm products; South Plains Grain Corp., Levelland, Texas, $60,000, grain storage; Bunkers, Inc., Provo, Utah, $125,000, animal feeds dealer; Farmers Exchange, Smithfield, Utah, $50,000, mfg. grain mill prod.; and Vita Plus Corp., Madison, Wis., $100,000, mfg. agricultural feeds.

Kentucky Feed Session Scheduled Aug. 17-18

LOUISVILLE, KY. — The 1959 Kentucky feed conference, sponsored jointly by the Kentucky Feed & Grain Assn. and the University of Kentucky, is scheduled for Aug. 17-18 at the Brown-Suburban Motel, Louisville.

The program will include talks on nutrition by prominent speakers from the University, a talk on sales and merchandising and a discussion of the Delaney Food Additives Amendment by a representative of the Food and Drug administration.

A special luncheon for ladies and a banquet is planned. Reservations are now being received by the Brown-Suburban Motel.

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DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7593—Bag Flattener

The New London Engineering Co. has introduced a bag flattener. Designated the "Model BB12Ex8 Type 32, the 8 ft. unit is designed to flatten bags as they come from filling machines, to assure firm, safe stacking or palletizing, and storage in the least space possible," the company said. The unit is basically a New London Cost-Cutter Conveyor with

an inverted power feeder driven from the snub pulley shaft. The upper belt can be adjusted to the desired minimum position above the lower belt and several different bag sizes can be flattened without changing the adjustment. The exact amount of compression required is achieved by adding weight on the shelf on the upper belt. The unit is available in belt widths from 8 in. to 24 in. For details, check No. 7593 on the coupon and mail to this publication.

No. 7590—Bulk or Bag Feed Body

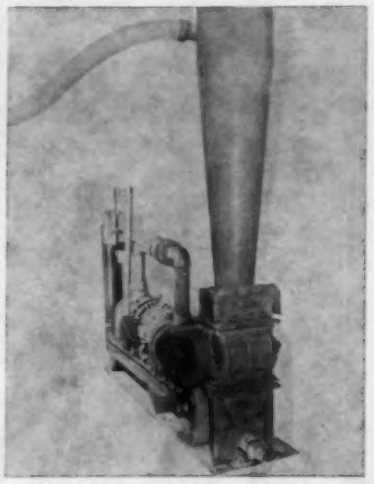
A new feed body that may be used to handle feed and grain in bulk or in bags, has been announced by Trailco Manufacturing & Sales Co. A Sprout-Waldron pneumatic system is installed as an integral part of the body and delivers the feed direct to the bins, the company said. For bulk feed, the body is tilted so that the feed flows into a hopper at the rear and from there is carried by aluminum sheathed hose direct to the storage bins. A ladder provides direct access to a catwalk on the roof, where hatches are available for feed loading. A rear tail gate, normally secured by clamps, may be dropped when the vehicle is delivering feed in bags. A heavy-duty tarpaulin encloses the balance of the rear opening. Removable partitions are installed within the all-aluminum feed body for separation of orders. Several models are available. Check No. 7590 and mail for details.

No. 7594—Vitamin K Product

Abbott Laboratories announces a new Klotogen F Premix. According to company literature, the new premix offers greater stability, "mixability" and savings for each gram of Klotogen F used in poultry feeds. Klotogen F is Abbott's stabilized menadione sodium bisulfite, and it features a nutritive carrier—soybean oil meal—which improves stability, the company said. The carrier is more compatible with the feed, offers extra nutritive value and mixes better at the mill, company literature claimed. Each pound of the premix contains 16 grams of Klotogen F, or four times the concentration of the earlier premix. It is shipped in 50 lb., multiwall, moisture-proof bags. For more information, check No. 7594 on the coupon and mail.

No. 7592—Package Pneumatic System

The availability of a 40 h.p. combination negative and positive pressure conveying system in a package unit has been announced by Sprout, Waldron & Co., Inc. Pneu-Pac 40 offers 100% increase in capacity over previous models, the company said. The Pneu-Pac 40 is a complete package unit consisting of an inlet nozzle; flexible hose; long cone products collector; rotary feeder valve with motor and drive; two rotary positive displacement blowers; a 40 h.p. 1,750 rpm motor; kinetic transition with velocity trap; compact blow-through flat type manifold and a standard in-line filter. The capacity is greater than the 25 h.p. Pneu-Pac, but it is designed to operate with the same line size, enabling the operator to use the same unloading hose and nozzle. Capacities are listed as 10 to 15 tons per hour for soft feed ingredients and 15 to 20 tons for bulk whole grains. Optional equipment is available. For details, check No. 7592 and mail.



No. 7587—Inert Atmosphere Generators

Gas Atmospheres, Inc., has published a bulletin describing its new line of packaged inert atmosphere generators. The bulletin includes typical installations, applications, features and a comprehensive flow chart. It also includes a utilities table showing at a glance the amounts of gas, power and water required to obtain maximum capacities. For copies of this bulletin, check No. 7587 on the coupon and mail to this publication.

No. 7589—Bulk Feed Body

The "Grant Bulk Feed Body" has been announced by Gerber Sheet Metal, Inc. The feed body is furnished with 14 ft. augers which will reach 16 ft. 6 in. from the ground. Extensions can be purchased to reach any desired length. Each unit contains self adjusting chain tighteners, a Van Rudden pump with power take-off, two slave pumps to drive the apron, a lift auger and an extension auger. The feed box and the running boards are made of 12 gauge material. There is a 3 in. channel frame throughout and the floor plate is

braced to carry filled feed bags. The weight of the unit is 2,400 lb. and it is constructed to allow for an unusually low center of gravity, the company said. There is a 15 in. wide apron for unloading each of two compartments. The front compartment has cut-off slides and the apron is reversible for cleanout. A slide at the bottom of the receiving apron makes possible direct gravity unloading into a pit. All controls are located on the right rear while the discharge auger is on the left side to assist the driver in spotting to unload contents. For more information, check No. 7589 and mail.

No. 7588—Molasses Product

VyLactos Laboratories, Inc., manufacturer of Scotch O Lass dehydrated molasses, has announced a new form of the product to be called Scotch O Lass Crumbles. According to the company, the crumbled product offers many advantages for on-the-farm use. Company surveys indicate that dairymen prefer a crumbled product for hand feeding and for use in outdoor bunks because there is practically no loss from wind drift. The coarser material is also less apt to "set up" in bad weather, the manufacturer claims. For details, check No. 7588 on the coupon and mail to this publication.

No. 7595—Grain Conveyor

The introduction of a newly designed, higher-capacity "GrainVayor" has been announced by the Myers-Sherman Co. The new model, to be known as the "Air Master," is built on a new design and engineering concept, the company says, that doubles the operating pressures of former equipment. Grain conveying capacity is 4,000 bu. an hour. The unit has a

centrifugal compressor. It is designed on the same principle as jet aircraft turbines, and utilizes a multi-stage fan of 38 in. diameter. Because of its size it delivers a higher capacity and reduces operating speed more than 600 rpm, meaning less repair time and increased life, the company said. A reinforced drop frame gives short turning radius and stability. It can be operated easily by one man. The unit can remove dirt, dust and fines and can take top crust of grains. It can load to heights of 150 ft. and more and across more than 500 ft. Check No. 7595 and mail for details.

No. 7591—Sales Booklet

A new brochure, entitled "14 Tested Ways to Increase Sales and Cut Sales Cost," has been announced by

Send me information on the items marked:

- ☐ No. 7586—Engineering Service
- ☐ No. 7587—Inert Atmosphere Generators
- ☐ No. 7588—Molasses Product
- ☐ No. 7589—Bulk Feed Body
- ☐ No. 7590—Bulk or Bag Feed Body
- ☐ No. 7591—Sales Booklet
- ☐ No. 7592—Package Pneumatic System
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Perrygraf Corp. Seventy-six pictures and 122 case histories give information on how to pep up the sales program by using slide-charts to put product facts at the fingertips, the company said. Available slide charts include one on how to calculate egg cost based on feed cost and laying rate. Another one shows the amount of feed required to add weight to stock and others show equipment and floor space necessary for different numbers of chickens, dosage for disease prevention and treatment and many similar farm problems. The booklet and other materials are available free by checking No. 7591 on coupon and mailing.

No. 7586—Engineering Service

The V. D. Anderson Co. announces an engineering service to be made available to oil mills, rendering plants and meat packing rendering departments. The service, according to the company, was designed to meet the need for an engineering service that is qualified to consult with various mill and plant executives about complete plants as well as modernization programs in order to correlate the new advances and bring about more efficient extraction operations. The service encompasses many phases of engineering work from economic studies to actual operation. Preliminary studies can be made including a typical outline for determining the economic feasibility of installation and relative process comparisons. A special brochure outlining the service in detail is available by checking No. 7586 on the coupon and mailing.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs

No. 7539—Screen separator bulletin, Southwestern Engineering Co.

No. 7540—Salt box designs, International Salt Co.

No. 7541—Financing, leasing program, Simonsen Manufacturing Co.

No. 7542—Bulk feed handler, Productive Acres Manufacturing Co.

No. 7543—High-speed blender, Strong-Scott Manufacturing Co.

No. 7544—Dual roll drive, Moore Dry Dock Co.

No. 7545—Pneumatic vibrator, Cleveland Vibrator Co.

No. 7546—Barge unloading conveyor, Andrews Machine Co.

No. 7547—Bulk feed unit, Ripco, Inc.

No. 7548—Electronic weight detector, Fairbanks, Morse & Co.

No. 7549—Equipment catalog, Burrows Equipment Co.

No. 7550—Moisture computer, F. H. Peavey & Co.

No. 7551—"Dual-Speed" pellet mill, California Pellet Mill Co.

No. 7552—Mixer data sheet, Munson Mill Machinery Co.

No. 7553—Auger elevator, Koyker Manufacturing Co.

No. 7554—Bulk scale bulletin, Richardson Scale Co.

No. 7555—Surge bin, Rapids Machinery Co.

No. 7556 — Equipment catalog, Seedburo Equipment Co.

No. 7557 — Service plan brochure, Wm. Davies Co., Inc.

No. 7558 — Batch mixer bulletin, Gruendler Crusher & Pulverizer Co.

No. 7559—Grain drying bin, Lennox Industries, Inc.

No. 7560 — Gluten feed booklet, Corn Industries Research Foundation, Inc.

No. 7561—Bulk material transport, Dorsey Trailers.

No. 7562—Mixer-blender, Collision Mixer Co.

No. 7563—Electromagnetic pulley, Stearns Magnetic Products.

No. 7564—Flat belt pulleys, Republic Engineering & Manufacturing Co.

No. 7565 — Coded card control, Richardson Scale Co.

No. 7566—Creep feeder, National Manufacturing & Stamping Co.

No. 7567—Fabricated roof, Butler Manufacturing Co.

No. 7568—Vitamin A, Distillation Products Industries.

No. 7569 — Portable grain auger, Viking Manufacturing Co.

No. 7570—Protein analyzer, Hegman, Inc.

No. 7571—Cob and shuck retarder, C. O. Bartlett & Snow Co.

No. 7572—Pneumatic bulk unit, Aero-Bulk Manufacturing Co.

No. 7573—Linear programming, International Business Machines Corp.

No. 7574 — Temperature recording unit, Hot Spot Detector, Inc.

No. 7575 — Automatic bag feeder, Bemis Bro. Bag Co.

No. 7576—"Roughager" pellet mill, California Pellet Mill Co.

No. 7577—Bulk fumigant, Ferguson Fumigants, Inc.

No. 7578—Extractor magnet, Magni-Power Co.

No. 7579—Proportioning pump, B-I-F Industries, Inc.

No. 7580—Booklet on pellet mills, Sprout, Waldron & Co., Inc.

No. 7581 — Automatic unloader, Butler Manufacturing Co.

No. 7582 — Molasses feed scale, Richardson Scale Co.

No. 7583—Bin vibrator, Erież Manufacturing Co.

No. 7584 — Dealer program brochure, William Davies Co., Inc.

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Carl Woizeski, above, manages the Larsen Co-operative Co. and employs eight men in the feed department.

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The Strong-Scott Quick-Change Hammermill is the answer to the grinding needs at Larsen.

"We are presently operating four Strong-Scott Triple Action Mixers, a 5-ton, two 2-ton and a 1-ton, plus one molasses mixer," says Carl. "These do a good job of mixing and I guess the fact that our customers are well satisfied bears this out.

"We can run 12 ton an hour in our Strong-Scott Molasses Mixer and get excellent results. Maintenance on our Strong-Scott equipment is almost nil. In the one year we have had our Strong-Scott Hammermill, we have never had to change a screen. They are wonderful," concluded Carl. The contractor at Larsen, recently completing the newest addition, was A. Winterfeldt.

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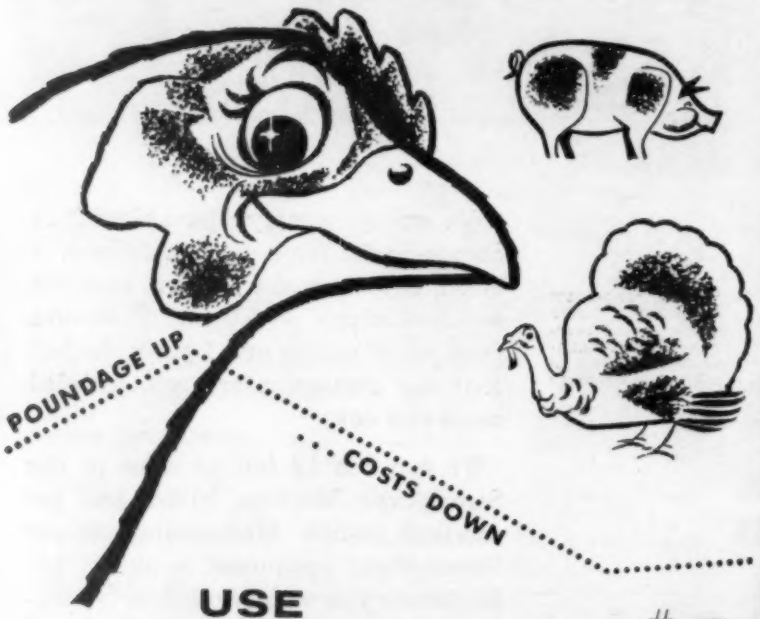

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Convention Calendar

July 21-23—American Poultry Congress and Exposition; Kiel Auditorium, St. Louis, Mo.; exec. sec., Don M. Turnbull, American Poultry and Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 3-8—Feed Microscopy Short Course; Texas Agricultural Experiment Station, College Station; chm., E. E. Brown, Asst. State Chemist.

Aug. 4-5—Midsouth Soybean and Grain Shippers Assn.; Hotel Peabody, Memphis, Tenn.; sec., Paul C. Hughes, P.O. Box 692, Blytheville, Ark.

Aug. 4-7 — Poultry Science Assn. (meeting for members and executive committee invited guests only), Iowa State College, Ames; chm., Dr. Robert E. Phillips, poultry department, Iowa State College.

Aug. 7-8 — North Carolina Feed Manufacturers Assn.; Ocean Forest Hotel, Myrtle Beach, S.C.; sec.-treas., A. M. Upshaw, Jr., North Carolina Feed Manufacturers Assn., Box 44, Mocksville, N.C.

Aug. 10-12 — American Soybean Assn. and National Soybean Processors Assn., joint convention; Sheraton-Jefferson Hotel, St. Louis, Mo.; exec. vice president, George M. Strayer, American Soybean Assn., Hudson, Iowa; sec., National Soybean Processors Assn., R. G. Houghtlin, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 11-12 — Wisconsin Nutrition School; Memorial Union, University of Wisconsin, Madison; chm., Dr. Robert H. Grummer, Dept. of Animal Husbandry, University of Wisconsin.

Aug. 17-18 — Kentucky Feed Conference, sponsored by University of Kentucky and Kentucky Feed & Grain Assn.; Brown Suburban Hotel, Louisville; sec., Jack Weber, P. O. Box 425, Lexington, Ky.

Aug. 23-25—Poultry Industries of Louisiana, Inc.; Captain Shreve and Washington Youree Hotels, Shreveport; sec., Clyde Ingram, Louisiana State University, Baton Rouge, La.

Aug. 23-25 — The National Hay Assn.; Sir Francis Drake Hotel, San Francisco; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

Aug. 24-27—Georgia Poultry Institute; Rock Eagle 4-H Club Center; Eatonton, Ga.; chm., Arthur Gannon, Poultry Division, University of Georgia, College of Agriculture, Athens, Ga.

Aug. 28—Purdue Swine Day; Purdue University, Lafayette, Indiana; chm., Dr. J. H. Conrad, Animal Science Department.

Sept. 3-4—Symposium on Magnesium in Agriculture; West Virginia University, Morgantown, W. Va.; Dr. G. C. Anderson, head, Animal Husbandry Dept.

Sept. 4 — Illinois Cattle Feeders Day, University of Illinois, Urbana; chm., A. L. Neumann, Beef Cattle Division.

Sept. 4—Swine Day; University of Missouri, Columbia; chm., Prof. Leland Tribble, Animal Husbandry Department.

Sept. 9-10 — Pet Food Institute, Drake Hotel, Chicago; sec., Clyde Kassens, 332 S. Michigan Ave., Chicago, Ill.

Sept. 9-10 — Maryland Poultry Service Conference; University of Maryland, College Park; chm., Wade H. Rice, University of Maryland, College Park, Md.

Sept. 9-17 — Illinois State Turkey Growers Assn., farm of Clarence Ziemer, Elmwood, Ill.; sec., S. B. Swann, Kauffman Turkey Farms, Waterman, Ill.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members),

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the columns in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

Sept. 24-26 — Pennsylvania Millers & Feed Dealers Assn.; Yorktowne Hotel, York, Pa.; sec., Donald W. Parke, P.O. Box 329, Ephrata, Pa.

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Minneapolis; exec. vice pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

Sept. 15-16—Mutual Millers & Feed Dealers Assn.; Jamestown, N.Y.; sec., Margaret Bentley, 41 Chautauqua Ave., Jamestown, N.Y.

Sept. 15-17—Dixie Poultry Exposition; Asheville, N.C.; sec., N. B. Nicholson, Monroe, N.C.

Sept. 16-18—National Feed Ingredients Assn.; Pick-Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 17-18 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry.

Sept. 18 — College-Feed Industry Conference; Iowa State College, Ames; chm., Prof. Emmit Haynes, Animal Husbandry Dept.

Sept. 23 — Vermont Feed Dealers and Manufacturers Assn.; University of Vermont, Burlington, Vt.; sec., D. C. Henderson, Hills Agricultural Science Building, Burlington, Vt.

Sept. 23-25 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 26—Small Mill Short Course; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 29-30 — Pacific Northwest Garden Supply Trade Show; Masonic Temple, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Oct. 6-8 — Northeastern Poultry Producers Council Exposition and Convention; Farm Show Building, Harrisburg, Pa.; chm., Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

Oct. 7-9—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-14—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Cumberland Falls State Park, Corbin; sec., John W. Tuttle, 730 Rose St., Lexington, Ky.

Oct. 14 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 14-15—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Agricultural Experiment Station Bldg., University of Kentucky, Lexington, Ky.

Oct. 15-16—Michigan Feed & Grain Dealers Assn.; Kellogg Center, Michigan State University, East Lansing, Mich.; sec., Nevels Pearson, P.O. Box 472, East Lansing, Mich.

Oct. 15-16 — West Virginia Feed Dealers Assn. convention; Blackwater Falls Lodge, Davis; sec., J. S. Larrick, Beckley Ice & Feed, Beckley, W. Va.

Oct. 19-20—Beef Research Conference (attendance by invitation); Purdue University, Lafayette, Ind.; sponsored by Agricultural Research Institute and National Academy of Sciences-National Research Council; Dr. C. B. Cox, Agricultural Economics Department, Purdue University.

Oct. 19-20—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Berton Maxwell, Poultry Producers of Central California, Petaluma.

Oct. 20-21—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 22-23 — Annual Stockholders Meeting, Cooperative G.L.F. Exchange, Inc., Onondago County War Memorial Building, Syracuse, N.Y.

Oct. 22-23 — Iowa Seed Dealers Assn.; Savery Hotel, Des Moines; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines 9, Iowa.

Oct. 29—Nebraska Feed & Nutrition Conference; University of Nebraska, Lincoln; chm., Dr. John Adams, Poultry Husbandry Department.

Oct. 30—Rooters Day; University of Nebraska, Lincoln; Dr. E. R. Peo, Animal Husbandry Department.

Oct. 30 — Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

Nov. 4-5—Illinois Feed Assn. and

CALENDAR FOR 1959-60

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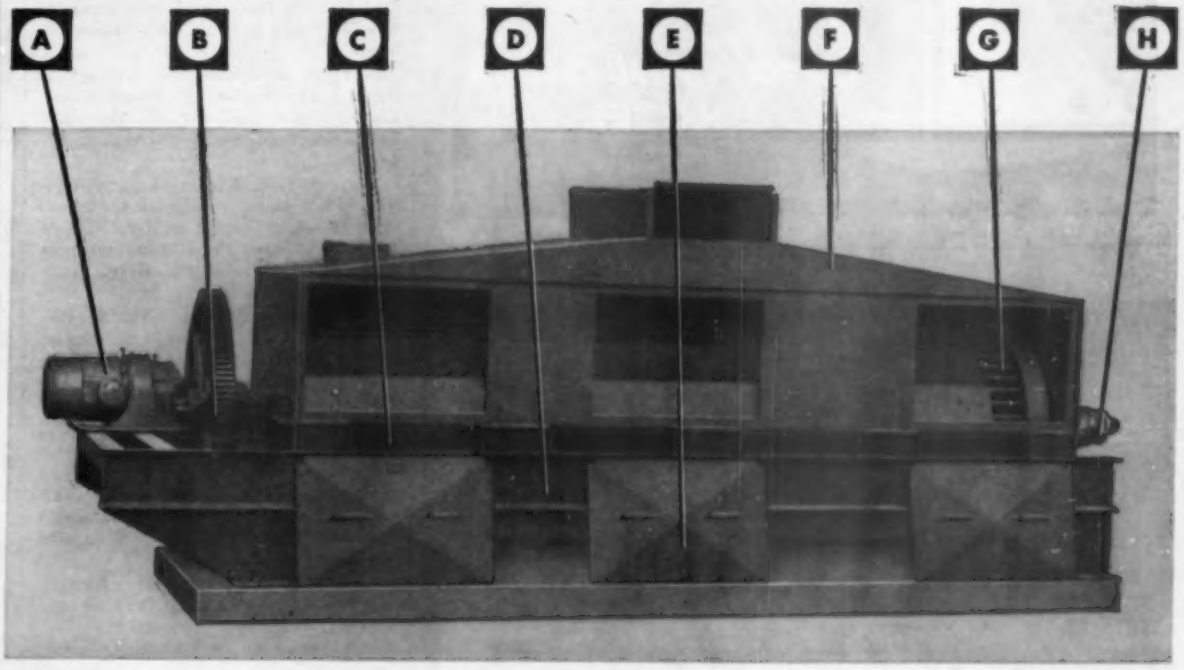

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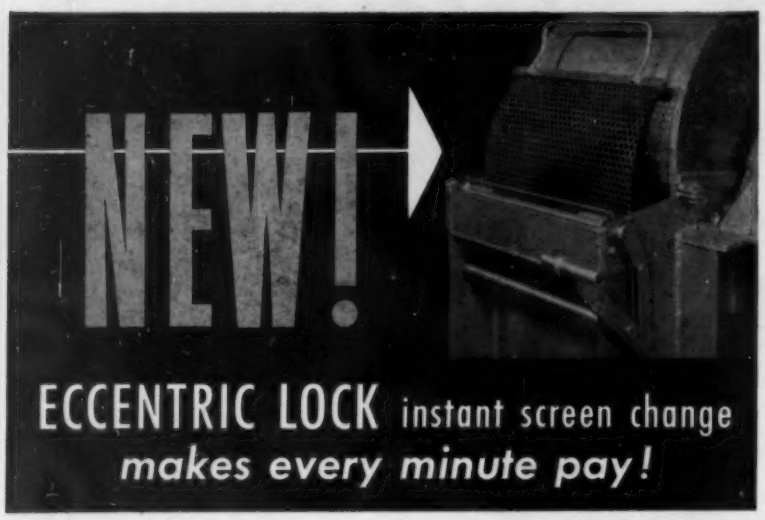

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- Extra large feed opening handles bulky materials, too.
- Separate motor driven fan (optional) maintains peak capacity.

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Illinois Poultry Improvement Assn., joint convention; Armory, Springfield, Ill.; IFA, Leland Hotel; sec., Dean M. Clark, Board of Trade Bldg., Chicago; IPIA, St. Nicholas Hotel; sec., Aubrey Harless, Box 91, Shelbyville, Ill.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 30 N. La Salle St., Chicago 2, Illinois.

Nov. 6-7—Oklahoma Formula Feed Conference; Oklahoma State University, Stillwater; chm., Dr. Rollin H. Thayer, Poultry Science Department. Jackson Blvd., Chicago 4, Ill.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Nov. 19-20—National Swine Industry Conference; Iowa State College, Ames; chm., Keith Myers, National Swine Growers Council, Grundy Center, Iowa.

Nov. 22-24—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines 9, Iowa.

Nov. 27-28 — American Society of Animal Production; Sherman Hotel, Chicago, Ill.; sec., Dr. H. H. Stonaker, Colorado State University, Ft. Collins, Colo.

Nov. 30-Dec. 1 — Midwest Veterinary Nutrition Conference; President Hotel, Kansas City; sec., Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th Street Bldg., Kansas City 5, Mo.

Dec. 8-9 — Poultrymen's Service Clinic; Cornell University, Ithaca, N.Y.

1960

Jan. 4-5 — Kansas Formula Feed Conference; Kansas State University, Manhattan, Kansas.

Jan. 17-19—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4, Ind.

Jan. 25-27 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 4-5—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; chm., Dr. J. E. Parker, Poultry Husbandry Department.

Feb. 8-9—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 8-9—Midwest Feed Manufacturers Assn.; Muehlebach Hotel, Kansas City; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 11 — Boston Grain and Flour Exchange Annual Banquet; Sheraton-Plaza Hotel, Boston; chm., Paul Sutliff, 177 Milk St., Boston, Mass.

Feb. 12-14—Fact Finding Conference, sponsored by the Institute of American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 59 East Madison, Chicago, Ill.

Feb. 21-23 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., G. E. O'Brien, 694 N. Ohio Street, Greenville, Ohio.

Feb. 22-23—Virginia Feed & Nutrition Conference; Hotel Roanoke, Roanoke; J. Paul Williams, sec., Virginia State Feed Assn., 615 E. Franklin St., Richmond, Va., or Prof. Paul M. Reaves, Department of Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 7-8—Grain & Feed Dealers National Assn.; Hotel Muehlebach, Kansas City; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

March 17-18—Oregon Feed & Seed Dealers Assn.; New Sheraton Hotel, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

March 23—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

April 21-23—California Hay, Grain & Feed Dealers Assn., Ambassador Hotel, Los Angeles; sec., John Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

April 21-23—Kansas Grain & Feed Dealers Association; Broadview Hotel, Wichita, Kansas; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 9-11—American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W.

"You're mixing WHAT in my washing machine?"

Tallow Increases Livestock Gains

TUCSON, ARIZ.—Research at the University of Arizona has shown that adding tallow to livestock feeding rations increases gains and feed efficiency, according to a new University of Arizona publication entitled "Using Tallow in Feedlots."

The booklet, written by W. T. Welchert, agricultural engineer, and Albert M. Lane, livestock specialist at the University, gives detailed instructions on how to handle tallow for feeding purposes, and how to construct needed tallow heaters for this purpose.

"Even when the fat costs as much as other feeds (per pound of energy)," the booklet states, "the additional benefits of feed saved, dust reduction and more pleasant working conditions make it worth feeding."

Another advantage shown by the University of Arizona experiments has been the reduction in bloat. Fat apparently is one of the best materials for this purpose and at the same time is offering additional food value to the ration. A pound of fat has approximately two and one-fourth times the amount of energy of grain, according to the booklet.

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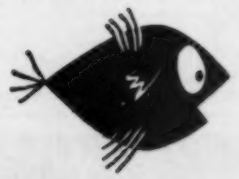

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Range Turkey Losses

In an experiment conducted by the University of Georgia College of Agriculture it was found that mortality was about the same for turkeys raised in confinement as for those on range, but, notes J. H. Massey, extension poultryman, there was a marked difference in the growing period when the losses occurred. He says turkeys raised in confinement suffered the greatest number of losses from 20-24 weeks of age, while the greatest death loss of range turkeys came in the first four weeks on range.

These findings indicate that early range mortality could be due to the young turkeys failing to adjust to their new environment.

"It is important to move the turkeys to range on a day avoiding unusual weather conditions," Mr. Massey advises. "Many of our disease problems are brought on by stress factors such as getting the birds too hot in moving."

He recommends that after the turkeys are moved the grower should be extremely diligent in helping them adjust to their new environment. "Be sure plenty of water is available," Mr. Massey says. "It is desirable to have waterers of the same type on range as used in the house."

Many turkeys are killed each year by predatory animals, and Mr. Massey recommends that the grower take all precautions to eliminate any possible loss from this source.

◆

The Three T's

The three major enemies of egg quality on the farm are time, temperature and treatment, said Chester H. Manasco, poultry marketing specialist, Mississippi State University, during the recent egg quality school conducted by the Southeastern Poultry & Egg Assn.

"High temperature has long been known to be the major factor causing loss in egg quality," he said. "Temperatures above 65° F. are too high for good egg quality."

Proper storage can help to eliminate time as a problem, he said. An egg left in a hot nest all day will do more to lower the quality than if left a week in an egg room.

"Treatment to keep egg quality high consists of many things," Mr. Manasco commented, "but cleanliness, cooling and humidity control are among the most important factors."

Three practices which Mr. Manasco listed as being necessary in retaining egg quality are:

1. Cool eggs quickly.
2. Hold them at a temperature below 65° F.
3. Keep them in a relative humidity of 70% or more.

◆

Time to Cull Cows

This is the year to cull cow herds severely, says Bob Farquhar, extension livestockman, Alabama Polytechnic Institute. Why? Because slaughter cattle prices at present are too good, he says, to allow inferior slow-producing cows to remain on the farm. And heavy culling now will help delay the apparent decline in future prices.

"Even though prices and pasture conditions are favorable now, farmers should look farther ahead than this fall," Mr. Farquhar warns.

He notes that there may be 4-5 million more cattle on farms next January than this past year, due to the present reduction in the number of cattle going to slaughter and the rapid increase in the number being held on the farm.

"Don't stop expanding in the cattle business, if you have the resources," says Mr. Farquhar. "But expansion should be done on the basis of making the best use of your land, breeding herd and other investments. It's not advisable to expand only when prices are favorable, since they are often followed by liquidation and low prices later."

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MACHINE TO REMOVE MEAT FROM CHICKEN

ATLANTA, GA.—W. A. Zartman, head of development work of the Meat Separator Corp., Atlanta, revealed that his firm is making a machine that will remove all the meat from a chicken, including the meat on the chicken's neck. The machine will also take out the smallest bones that are usually so difficult to remove.

Mr. Zartman said the neck and back meat, along with more accessible meats, will be used by manufacturers of frozen chicken pot pies, sandwich spreads, packaged fillets, chicken salads, soups and baby foods.

Kansas State University poultry nutritionist, has shown that antibiotics increase chickens' appetites. Reduced feed consumption this summer may be counteracted by using rations more highly fortified with vitamins, minerals, amino acids and antibiotics, Dr. Sanford reports.

Heavily fortified rations are needed more by confined birds than by those on range because range birds get nutrients from green vegetation.

Stale, rancid feeds are unpalatable, so using fresh feeds also helps keep birds eating during hot weather, according to Dr. Sanford. And clean, cool, fresh drinking water is important. Keeping water fountains shaded and burying water hose or pipes below the surface of the ground helps in this respect.

◆

Bulk Bin Construction

If a livestock feeder is having trouble with feed bridging in his bulk bin, it may be that his bin is not constructed properly.

It often helps to construct bins with at least two vertical sides, suggests Al Krewatch, extension agricultural engineer at the University of Maryland. The vertical sides should not be opposite each other, but should form two adjoining sides of the rectangular bin. He says the bin should have a 60-70° slope if it is used for storage of feed with molasses.

For hopper type bins, Mr. Krewatch advises the feeder to include as many of the following features as possible:

Large draw-off openings, 18-24 in. square.

Vertical sides—at least two, if possible.

Make sloping sides adjacent, not opposite.

Make sloping sides steep, 60-70°.

Use more than one draw-off per hopper.

If bridging problems occur, build in a poker which can be a metal rod insterted in a hole in the bin sidewall to break up or undercut the bridge.

G.L.F. Takes Part In Feeder Pig Project

ITHACA, N.Y.—Cooperative G.L.F. Exchange, Inc., Ithaca, is taking part in a research project to help determine whether feeder pigs can be raised profitably in western New York if a better supply of quality stock is made available, it was reported in G.L.F. Week, the cooperative's publication.

Other principals in the project are Empire Livestock Marketing Cooperative and Cornell University.

An experimental shipment of feeder pigs was trucked recently from Wisconsin to Empire's Caledonia, N.Y., stockyards (1,130 miles) in 24 hours. They were fed and watered enroute, and were reported to have arrived in excellent condition.

They were distributed on advance orders to 10 western New York farms, where farm tests will be conducted over a period of three and a half months.

Pacific Grain Dealers Elect Board Members

SPOKANE, WASH.—Newly elected members to the Pacific Northwest Grain Dealers Assn. board of directors have been announced by Herb. L. Powell, Lewiston (Idaho) Grain Growers, association president.

Named to three-year terms are: Herb Blunk, Almira Farmers Warehouse Co., Almira, Wash.; Walter Mikkelsen, Centennial Mills, Portland; Clifford Simmons, Rockford Grain Growers, Rockford, Wash.; Lloyd Nelson, Cargill, Inc., Portland, and Jack Finch, Aslin-Finch Co., Spokane.

New one year term members are: Wayne Daggett, North Pacific Grain Growers, Portland; Gordon C. Kauffman, Gordon T. Shaw Co., Spokane, and Al Lamb, Morrow County Grain Growers, Lexington, Ore.

Holdover members on the board include J. D. Urquhart, Union Elevator & Warehouse Co.; Tom Pfund, Chehalem Valley Mills; H. L. Powell; R. R. Enlow, Continental Grain Co.; Tom Curtin, Atwood-Larson Co.; R. K. Driscoll, Idaho Bean & Elevator Co.; Peter Fisher, Fisher Flouring Mills Co.; A. C. Patton, United Grain Growers; E. P. Fredricks, Balfour, Guthrie & Co., and Mark P. Hengen, Ralston Purina Co.

Robert D. Wyche Joins Food Machinery Firm

RIVERSIDE, CAL. — Robert D. Wyche has been appointed sales engineer for bulk transport equipment in the central southern states by Food Machinery & Chemical Corp. Mr. Wyche was a district manager for Kelvinator before accepting his new assignment with Food Machinery.

Robert D. Wyche

According to D. R. Copple, sales manager, the firm's new facility for bulk trucks at Hoopeston, Ill., will now supply bulk transport equipment to the south central states, in addition to manufacture by Food Machinery's Riverside, Cal., plant.

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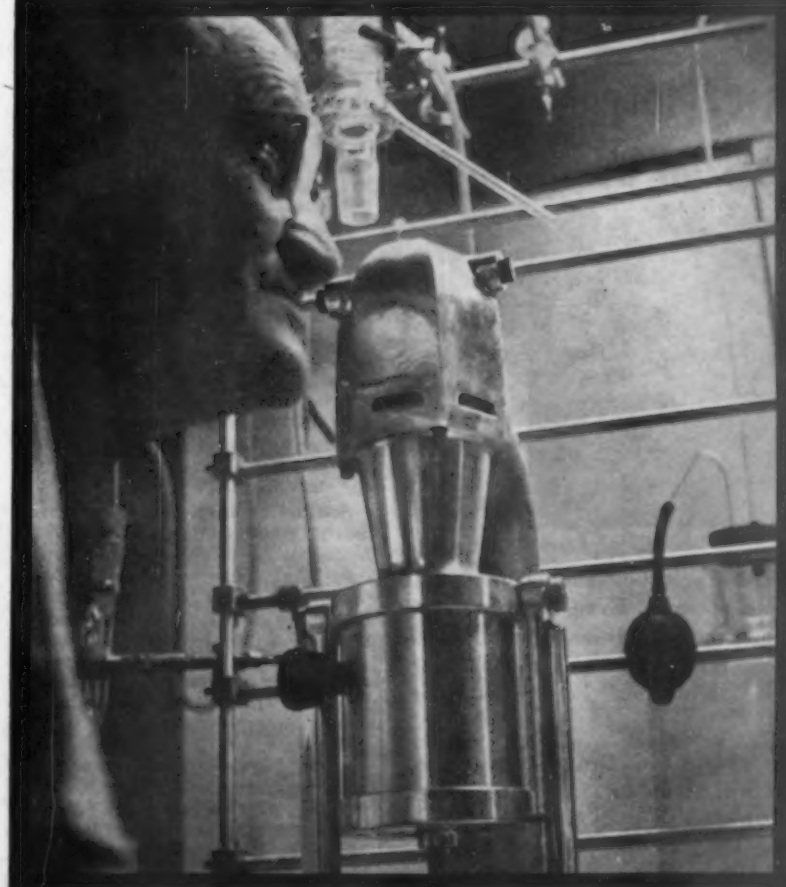

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Scientists Outline New Developments In Dairy Nutrition Research Work

By Special Writer

URBANA, ILL.—Quite a number of research papers of interest to nutritionists and other feed men were presented at the 54th annual meeting of the American Dairy Science Assn., held June 15-17 at the University of Illinois.

All told, more than 200 scientific papers were presented, dealing with research and technical problems in the fields of dairy production, marketing and extension. In this article those papers considered to be of the greatest interest to the feed industry are reviewed.

Among the general subjects of interest were rumen physiology, calf nutrition, rumen development in the dairy calf, silage and pasture, and general nutrition and management.

Individual reports covered research on such things as bloat control, ingredients in calf rations, use of various roughages, certain additives in dairy cow rations, certain supplements and the timely topic of pelleting the concentrate mixture. Many other topics also were discussed.

RUMEN PHYSIOLOGY—In studies of factors affecting the composition of rumen gas, University of Illinois researchers Kingwill and coworkers found that rumen gas composition varied in a regular manner with the time after feeding. The CO_2-methane ratio was narrowest after fasting (1:1) and was widest (3:1) within two hours after feeding. Following this peak, the ratio narrowed until four hours after feeding, when it widened again to a secondary peak. Thereafter the CO_2-methane ratio gradually narrowed to that of the fasting level. These patterns were similar on rations containing hay and concentrate, or concentrate alone, and the widest ratios (greatest amounts of CO_2 in proportion to methane) were obtained on rations including roughage. Addition to rumen ingesta of excess hydrogen gas had no effect on methane production, thus contradicting the theory that hydrogen is the limiting factor in methane formation of the rumen.

Illinois Study: From additional research at the University of Illinois, Opperman and associates found that the addition of C^{14} labeled acetate or formate resulted in the rapid appearance of labeled C^{14} in both CO_2 and methane in the rumen; with some C^{14} detected later in rumen butyric acid and to a lower extent in propionic acid. Some of the C^{14} labeled acetate remained in the rumen for as long as 10 hours. The resulting data suggest that from 3 to 5% of rumen methane is derived directly or indirectly from acetate. C^{14} activity from labeled formate appeared in acetate, propionate, and butyrate, but most rapidly in acetate, with the greatest activity appearing in propionate. The labeled formate disappeared from the rumen in 30 to 45 minutes, with no free hydrogen detected, indicating that no formate was generated in the rumen during this period.

Bacterial Counts: University of Maryland researchers Provost and Doetsch found that the feeding of a diet of flaked corn and alfalfa pellets to a fistulated cow gave higher total rumen bacterial counts and greater numbers of amylolytic (starch digesting) types of bacteria than a normal high-roughage alfalfa diet. The two diets resulted in distinct differences in the types of culturable bacteria present in the rumen, with Gram-positive rod types most numerous on the corn diet but not on the high-roughage diet. Amylase activity of cell-free rumen liquor was greatest with the starch diet. Significant numbers of a Gram-negative cocci resembling an unusual amylolytic bacterium were isolated from the bacterial population produced by the corn diet.

Ingredient Changes: According to the results of preliminary Kentucky experiments, Claypool and Jacobson reported that minor changes in ingredient composition of the ration failed to cause any significant changes in rumen microbial activity as measured by analyses of rumen volatile fatty acids. The ration changes tested included substitution of barley for corn and vice versa; change to a similar, but different, lot of hay, and additions of 1% salt or trace minerals. At the beginning of the experiment, at least 14 days were required for rumen microbial activity to become constant.

VFA Absorption: Using the rumen perfusion technique with goats, Illinois investigators Staubus and associates found that the addition of either butyric or propionic acid resulted in increased, but not a linear increase, in VFA (volatile fatty acid) absorption from the rumen. There apparently was some interconversion among acetic, butyric and propionic acids. Blood ketones were increased by butyric acid administration, but not by propionic acid.

Bloat Control: In connection with their research on bloat control, Iowa State researchers, Allen and coworkers, made studies of the fate of soybean oil in the rumen. They found that the limited effectiveness (3-4 hrs.) of orally administered soybean oil in controlling bloat may be due to the fact that it passes from the rumen in this length of time. Their results also suggested there is little hydrolysis of triglycerides (fat) in the rumen.

South Dakota Study: Moore, from South Dakota State College, reported from studies on bloated and normal cows that there were no significant differences in either hemoglobin or methemoglobin levels in the blood of normal vs. bloated animals. In further research Moore devised a new method for measuring blood pressure in cattle which involves exposing the carotid artery in the neck by surgical procedures and proceeded to record systolic blood pressure, heart rate and respiration rate in cattle with varying degrees of bloat. Average blood pressure, before pasturing was 175 mm. Hg.; after pasturing: (no bloat) 179 mm. Hg.; slight (bloat) 185 mm. Hg.; (moderate bloat) 196 mm. Hg.; (severe bloat) 242 mm. Hg. Average heart rate also increased from a normal rate of 90 to 142 in cases of severe bloat. Respiration rate did not change appreciably with varying degrees of bloat, except that it became extremely labored during severe bloat.

Mucin and Saliva: Kansas State investigators VanHorn and Bartley reported on in vitro experiments designed to provide information on the effect of linseed mucin and bovine saliva in preventing frothy bloat. They found that the addition of either linseed mucin or saliva to samples of frothing rumen contents increased the release of gas from the rumen contents. In further tests either linseed mucin or saliva prevented the formation of a stable froth produced in water containing alfalfa saponin through which air was bubbled. Thus the results of these experiments support the theory that mucin in saliva or as supplied by linseed meal prevents bloating by inhibiting stable froth development and by permitting gas to escape from frothing rumen contents.

Water Consumption: University of Missouri researchers Kamal and associates reported on an experiment designed to show whether water consumption in dairy cattle is controlled directly by environmental temperature or through urine excretion. In dairy heifers exposed to temperatures ranging from 35 to 95° F. both water consumption and urine excretion increased as the temperature was raised. Further tests with injections of antidiuretic hormones indicated that environmental temperature apparently influences water intake not directly such as through a "drinking center" in the brain, but probably through urine excretion in a complex physiological mechanism involving temperature effect on hormone activity which is reflected in increased urine excretion and consequent changes in blood osmotic pressure, the nervous system and finally, water intake.

Changes in Forage: In investigations of the declines in milk production which often occur following abrupt changes in the forage fed to cows, Vandersall and associates of the University of Arkansas found the action of the thyroid gland is involved. Using radioactive iodine levels in blood as an indicator of thyroid activity, these researchers found in two experiments that when heifers receiving alfalfa hay were abruptly changed to legume-grass silage, the rate of iodine released into the blood stream was increased; heifers receiving mixed hay or legume silage had higher iodine release rates than heifers fed grass silage. The changes in iodine release rates resulting from forage changes in the ration were blocked, or prevented by the feeding of thiouracil, a goitrogen. These data indicate that some roughages commonly fed to dairy cattle contain goitrogenic substances which may affect milk production through their effect on the thyroid gland.

CALF NUTRITION—Several papers on calf nutrition were presented, dealing with research on fat levels, protein levels, different carbohydrate sources, feeding of silage and hay, and effect of ration composition on rumen development in young dairy calves.

Fat Levels: University of Minnesota researchers tested different levels of stabilized lard in calf milk replacers based on fortified, low-heat, dry skim-milk solids. The levels of added lard provided fat levels of 0, .5, 1.0, 2.0, and 3.0% in the reconstituted milk replacer. Best results, measured in terms of body weight gains and occurrence of scours, were obtained with the highest level of fat (3%) in calves fed to four weeks of age. Scouring rate was highest on the fat-free diet, but there were no significant differences in scouring rate among the fat-supplemented groups.

Milk Fat Digestibility: The digestibility of milk fat by young dairy calves (3 to 15 days of age) was determined in digestibility trials conducted by Grimes and Gardner of the University of Illinois. Using milk fat levels of 3 to 9%, they found these levels of fat were highly digestible (94.2 to 97.4%). However, incidence of scouring was highest for the 9% fat milk.

Protein Requirement: Studies of the protein requirement of the young dairy calf were reported by Lassiter

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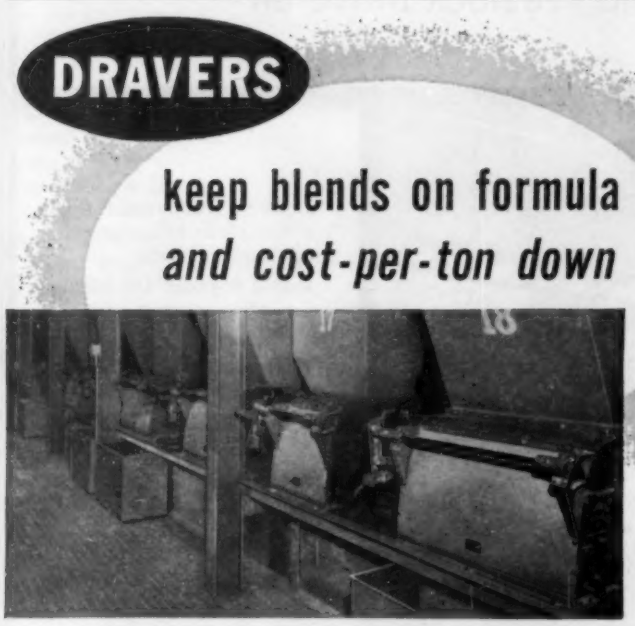

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Every Saturday I get my gang together down in Springfield, Mo., and we climb aboard the NBC Monitor network . . . 140 stations in all.

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We think we have to do a lot of *good* entertaining to get listeners. And even though I'm sometimes called "America's Favorite Country Music Man," we somehow manage to attract as many city folks as we do farm families.

So our first job is to get listeners by entertaining them. Then my pal, Joe Slattery, can do a good job of telling them about what our sponsor has to sell. Last year that was Hess & Clark, the company that specializes in *new products and ideas for healthier livestock and poultry.* And judging from the cards and letters . . . and sales . . . a good many people who hadn't been using Hess & Clark products suddenly got interested in nf-180 for improved egg production.

You'd be amazed at all the mail we got. And an awful lot of it started out:

"Send me the name of a feed dealer who can supply nf-180. I think this is what my chickens need."

So on the basis of all the new people we got interested in the Hess & Clark products you sell, we're going to be working for the same company again this year.

But we're going to do something else, too. Like I said earlier, almost as many city folks listen to our music as farmers. They don't buy things from Hess & Clark or from feed people . . . but they sure eat a lot of the things farmers produce. So we're going to steal a little bit of that high-priced NBC time and tell the folks in town about the value of enjoying more eggs at meal and snack time every day.

Now we know we aren't going to move mountains. But someone has to make a start. And we *will* be talking with folks in 48 of the 50 states . . . 140 radio stations . . . and usually right about the time they're thinking about lunch or supper.

Let's "sell" our way out

We're pleased as the dickens to be helping Hess & Clark sell their fine nf-180—and *bifuran* too—for healthier livestock and poultry. And we're downright delighted to take a part in helping farmers sell their way out of the surpluses that are hurting egg prices these days. We hope you'll listen in . . . and remind your customers to sit down and tap their feet with us for 15 minutes every week, too.

By the way, right down below here in big type is something you're going to see and hear a lot more of in the months ahead. I wanted you to be the first to know about it:

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Meet Red Foley and learn more about the Golden Goodness of Eggs campaign at the APHF meeting in St. Louis, July 21-22-23. We'll be there, too. Hess & Clark, Division of Vick Chemical Co., Ashland, Ohio.

NT-9-3

and associates from Michigan State. In their experiments with protein levels in a milk replacer of 15.2, 18.7, 24.1, and 30.9%, weight gains were not significantly different for calves fed the 18.7, 24.1 or 30.9% protein levels, but were significantly lower for calves fed 15.2% of protein. Crude protein digestibility, nitrogen retention and percent nitrogen retained of intake decreased significantly as protein level decreased. The same was true of blood urea nitrogen and serum non-protein nitrogen. However, total serum proteins and the relative amounts of serum beta- and alpha-globulins or albumins were little affected by dietary protein level. These results suggest that the crude protein requirement of the young calf lies between 18.7 and 24.1%.

Carbohydrate Utilization: A study of the utilization of various carbohydrates by young dairy calves (to 6 wks. of age) by USDA workers Okamoto and associates showed that young calves are able to efficiently utilize glucose and lactose, but are not able to utilize sucrose, dextrin, or starch. Utilization of the various carbohydrates was determined by measuring changes in blood sugar levels following ingestion of the test carbohydrate by calves. Invertase feeding improved sucrose utilization, but fungal amylase had no beneficial effect on dextrin or starch utilization. Pancreatic diastase fed with dextrin gave only a slight response.

In similar experiments at the University of Illinois, Velu and coworkers reported that lactose, glucose, and galactose were the only sugars readily utilized by the young calf prior to rumen development. Calves were unable to utilize sucrose and fructose, whereas maltose, poorly utilized at 2 weeks of age, was slightly better utilized at 3 weeks. Calves scoured on sucrose, fructose or maltose. High utilization of sucrose was obtained when it was inverted with invertase or citric acid or fed with invertase.

RUMEN DEVELOPMENT IN THE YOUNG DAIRY CALF—Cornell researchers Sander and associates determined the effects of administering absorbable compounds on the development of rumen papillae in young dairy calves. Administration through the rumen fistula of sodium butyrate or sodium propionate over an 11-week period markedly stimulated papillary growth; sodium acetate, glucose and sodium chloride administration gave only moderate papillary growth. Papillary growth stimulation appears not to be due to absorption per se since butyrate, propionate, and acetate have the same absorption rates. These investigators speculated that fatty acid metabolism by rumen mucosa may be a factor in papillary growth. According to these results, glucose and sodium chloride may also stimulate papillary development, possibly as a result of stimulation of blood flow in the rumen mucosa.

Iowa Study: Somewhat similar experiments were conducted by Iowa State researchers Tamate and associates. Calves fed from 4 days of age to 12 weeks on a milk, hay and grain ration had normal rumen development; calves fed milk only showed no rumen development. The feeding of milk plus acetic and propionic acids, milk plus butyric acid, milk plus carbonated water, milk plus sodium and potassium chloride, or milk plus sodium and potassium bicarbonates generally did not increase reticulo-rumen capacity but decreased omaso-abomasal capacity with little papillary development. The milk plus acetic and propionic acids plus small plastic sponges (in capsules) caused marked rumen development except for papillae. Calves fed acids had fold-like structures in the ruminal mucosa and atypical papillae; they also began "ruminating" at about seven days of age.

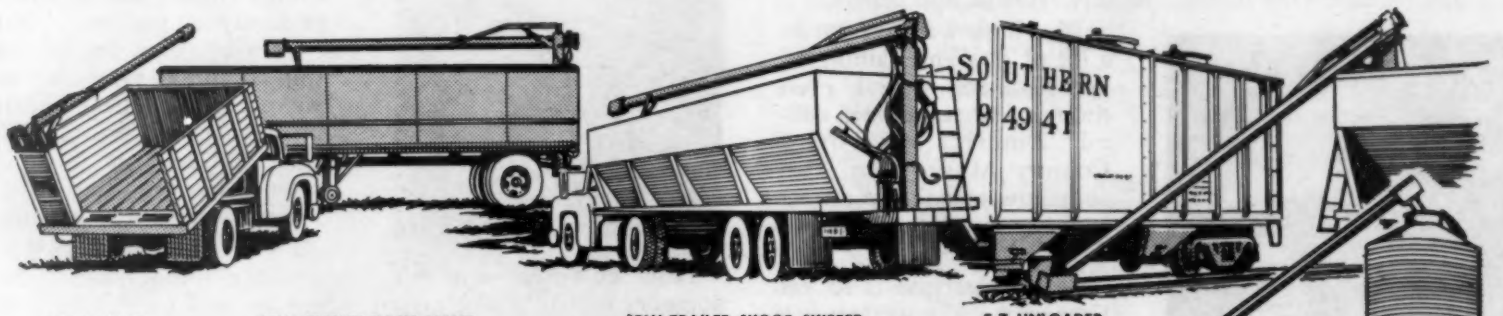
Roughage Quality: The effects of roughage quality upon rumen development in dairy calves were reported by Vermont investigators Smith and Sobrevilla. Five week old calves previously fed whole milk at 10% of body weight daily were paired and one calf from each pair was fed only high quality mixed hay cut at an early stage of maturity while the other calf of each pair was fed hay from the same field harvested one month later. Calves fed the early cut forage had greater body weight gains, greater dry matter and TDN intakes, markedly greater rumen papillae development and reached a peak in digestive ability much earlier than calves fed the later cut, poor quality forage. These investigators suggested that early cut high quality forage may contain substances not present in late cut forage which stimulate early rumen development. Rumen development also may be affected by energy intake. Dry matter digestibility of the early cut forage was 10.9 to 14.7% higher than for the late cut forage, as determined in digestibility trials with mature steers.

Corn Silage: North Carolina researchers Murley and Mochrie were interested in determining if corn silage could be fed as the sole roughage with starter to calves up to four months of age. In four trials conducted over a two-year period, calves fed corn silage free-choice plus medium or high levels of starter (3.0 or 4.0 lb. for Guernsey and Jersey calves, 3.5 or 4.5 lb. for Ayrshire and Holstein calves) made gains comparable to calves fed alfalfa or oat hay plus comparable amounts of starter (3.0 or 3.5 lb.). Calves fed corn silage plus a low level of starter (2.0 or 2.5 lb.) made significantly smaller gains than the hay-fed calves. Thus it appears that calves fed corn silage up to 4 months of age make gains comparable to those fed good quality hay and similar amounts of milk and starter.

Limited Milk: The results of raising Holstein calves on limited amounts of milk were reported by Canadian workers Clark and Whiting. Their results indicated that Holstein calves may be raised successfully if they are fed whole milk at the rate of 6 or 8 lb. per head daily to 28 days of age and then weaned abrupty, and if an adequate all-plant protein starter, containing 21% protein, and alfalfa hay are provided until 16 weeks of age, and if a growing concentrate and alfalfa hay or pasture are provided until one year of age.

SILAGE AND PASTURE—Purdue University dairy scientists Hill and co-workers observed the results obtained by farmers using polyethylene plastic covers to seal silos. The success of individual silos ranged from highly satisfactory to unsatisfactory. When good ensiling procedures were used, the silo properly and quickly sealed, and plastic not damaged, there was no surface spoilage and excellent ensiling fermentations were obtained. Any loss after opening depended on the time of year and the time required to feed it. Unsatisfactory results were associated with poor ensiling procedures, improper sealing or damage to the plastic. Surface losses ranging from 2 to 16 inches in depth resulted from improper sealing and damage to the plastic. Farmers with one year's experience with the technique generally had better results than those using it for the first time. These observations indicate that excellent silage can be made using this technique if proper attention is given to good ensiling practices and to protecting the plastic cover.

Types of Silos: Preservation losses in bunker, concrete stave and glass-lined silos were compared by Voelker of South Dakota. Total dry matter losses were greatest in bunker and upright silos and lowest in sealed, glass-lined silos. Weight loss of alfalfa silage, for example, was 32.5% in a bunker silo as compared with 1.7 to 6.7% in glass-lined silo. Oat silage loss was 29.6% in a concrete stave



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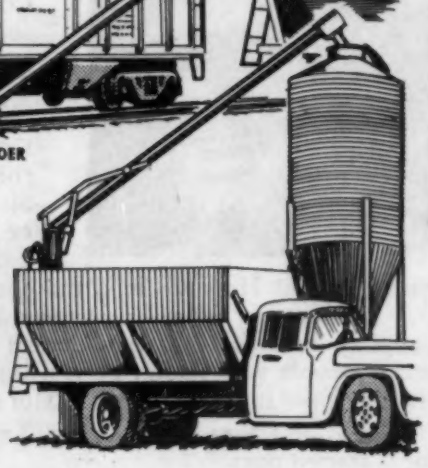

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silo and 37.1% in a bunker silo. Carotene values in the silages decreased with storage time and losses were greatest when total and dry matter losses were highest. Crude fiber and ash values increased when total losses and spoilage were highest.

Silage Preservatives: In a Louisiana experiment, zinc bacitracin, 10 grams per ton; molasses 80 lb. per ton; and sodium metabisulphite, 8 lb. per ton were compared with a non-treated control as silage preservatives. Rusoff and associates reported all silages, ensiled in 20 ton plastic silos, were of good color and odor. A comparison of the silages in a lactation experiment revealed no differences in average FCM production or efficiency of milk production from the different silages, but silage consumption was significantly greater for the control, non-treated silage.

Roughages Compared: Alfalfa hay and wilted alfalfa silage were compared as roughages for growing dairy heifers by Thomas of USDA, Beltsville. The feeding of silage for a 7 month period beginning at either 5 or 12 months of age did not seriously impair heifer growth to two years of age as compared with alfalfa hay-fed heifers. However, silage did result in definite restriction of body weight gains of heifers when fed for a 14 month period. These results indicate that silage may satisfactorily provide the major source of feed for heifers for as long as 7 months, either before of after a year of age, provided more adequate rations are supplied following the intervals of silage feeding.

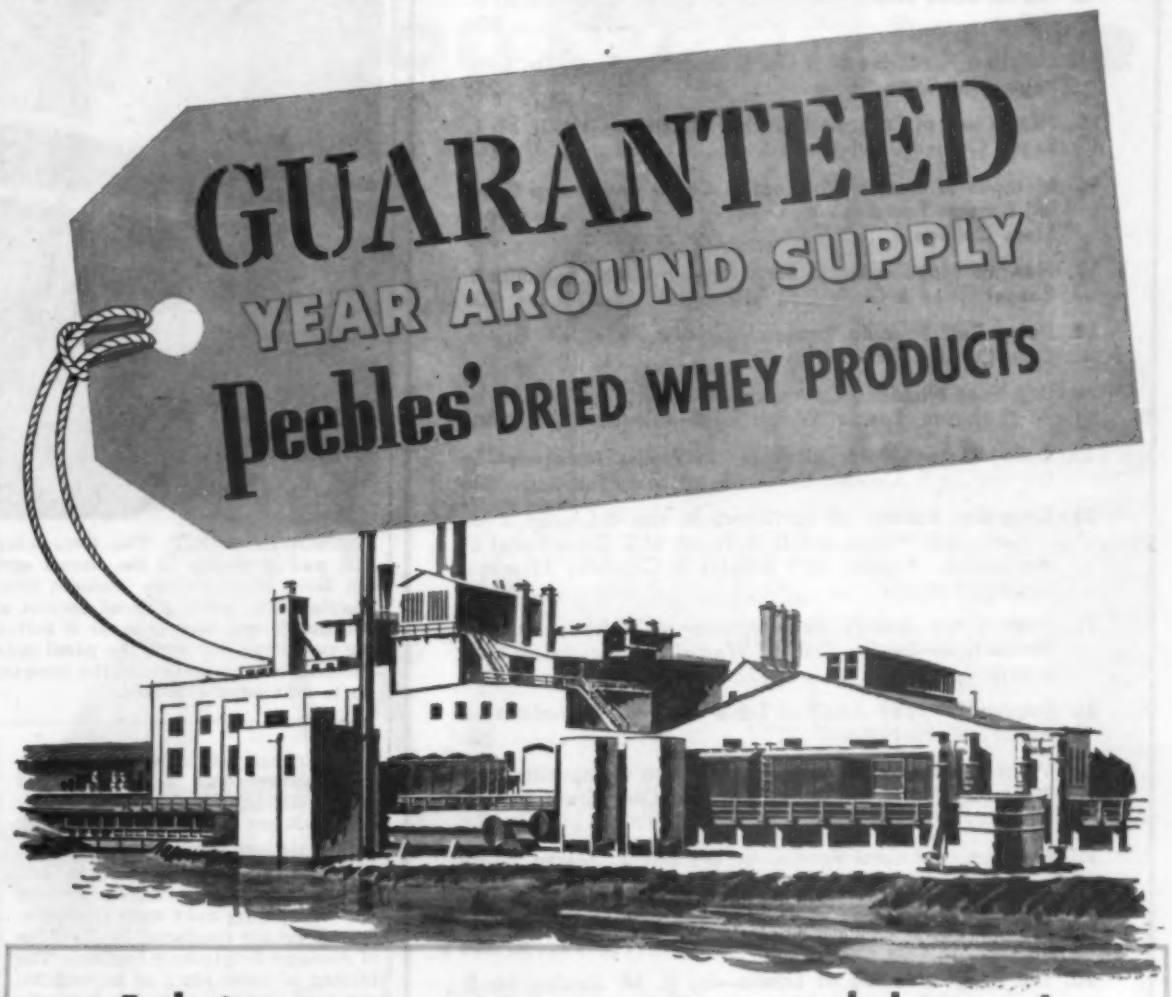
Supplements Studied: King and coworkers of Clemson College measured the effects of different supplements on the utilization of corn silage, oat and Bermuda grass hays by dairy heifers. A phosphated-urea-molasses mixture containing either 3 or 5% of phosphate fed solution and 3 or 5% urea was fed in two different trials. When fed with corn silage, 6 lb. of the phosphate-molasses-urea supplement gave significantly higher digestibility of dry matter and TDN than 3 lb. per head daily. Supplements of molasses (3.0 lb.) and alfalfa leaf meal (1.0 lb.) significantly increased the digestibility of dry matter, protein, and NFE and TDN content of oat hay rations. Supplements of either cottonseed meal or cottonseed meal and molasses significantly increased dry matter digestibility and TDN content of Coastal Bermuda grass hay rations. Nitrogen, calcium and phosphorus retention values were good on each of the grass hay rations.

Nebraska Silage Test: Nebraska researchers Owen and associates compared forage sorghums and corn as silages for lactating cows. In a double reversal type experiment, FCM production and silage intake were slightly but significantly greater for corn silage than either Axtell sorghum silage or silage made from a sterile hybrid forage sorghum variety. Calculated TDN values were similar for all silages and consumption of silage dry matter, changes in body weight, and percent butterfat in the milk also were similar for all silages. Since the sterile forage sorghum produced very few seed, it appeared that at least part of the nutrients normally stored in the seed of sorghums was deposited in the stalk and leaves of the sterile sorghum plant.

Pasture and Silage: In lactation experiments reported by Georgia investigators Miller and co-workers, spring grass pasture was compared with alfalfa-rye grass silage feeding or a combination of free choice silage plus 1 hour grazing daily. Milk production was highest on pasture, lowest on silage feeding and intermediate on the combination of silage and pasture. However, the combination group produced 12.3% more FCM than was predicted from the production of the other two groups and the reduction in silage consumption of the combination group. This increased milk production in the combination group was attributed to increased TDN intake rather than to an interaction in efficiency of utilization of the combined roughages. No interaction was found in the digestibility of dry matter.

Grazing Methods: Continuous grazing was compared with strip grazing for lactating cows in an experiment at Southern Illinois University. Sommer and associates reported that the two grazing methods with six cows on two 6.3 acre plots, gave similar levels of milk production. The strip grazed cows lost an average of 58 lb. body weight while continuously grazed cows gained an average of 113 lb. in body weight during the 125 day grazing period. The strip grazed plot yielded 6,765 lb. air-dry hay in two cuttings in addition to the milk produced by the grazing cows. Above normal rainfall during the grazing period probably lessened the differences in results between the two grazing systems, for in seasons with less rainfall, the advantage for strip grazing in terms of increased forage production and more efficient utilization due to elimination of selective grazing which occurs with continuous grazing, would be much greater. The primary disadvantage of strip grazing is the labor and time required each day to move the fencing.

GENERAL NUTRITION AND MANAGEMENT—Roughage capacity of dairy cows and efficiency of feed utilization were studied in an analysis of 12 Cornell experiments involving a total of 175 Holstein cows. Stone and co-workers reported that highly significant differences were found in roughage consumption between individual cows even after adjustments were made for differences in milk production, body weight and daily change in weight. Cows showing a high capacity for one kind of roughage also tended to have similar capacity for consumption of other types of roughage. Individual cows varied significantly in their ability to utilize feed efficiently, and feed efficiency was highly correlated with milk production, indicating that selection of cows for high milk production also should give greater efficiency of feed utilization in a herd. Analysis of the data comparing hay with silage as



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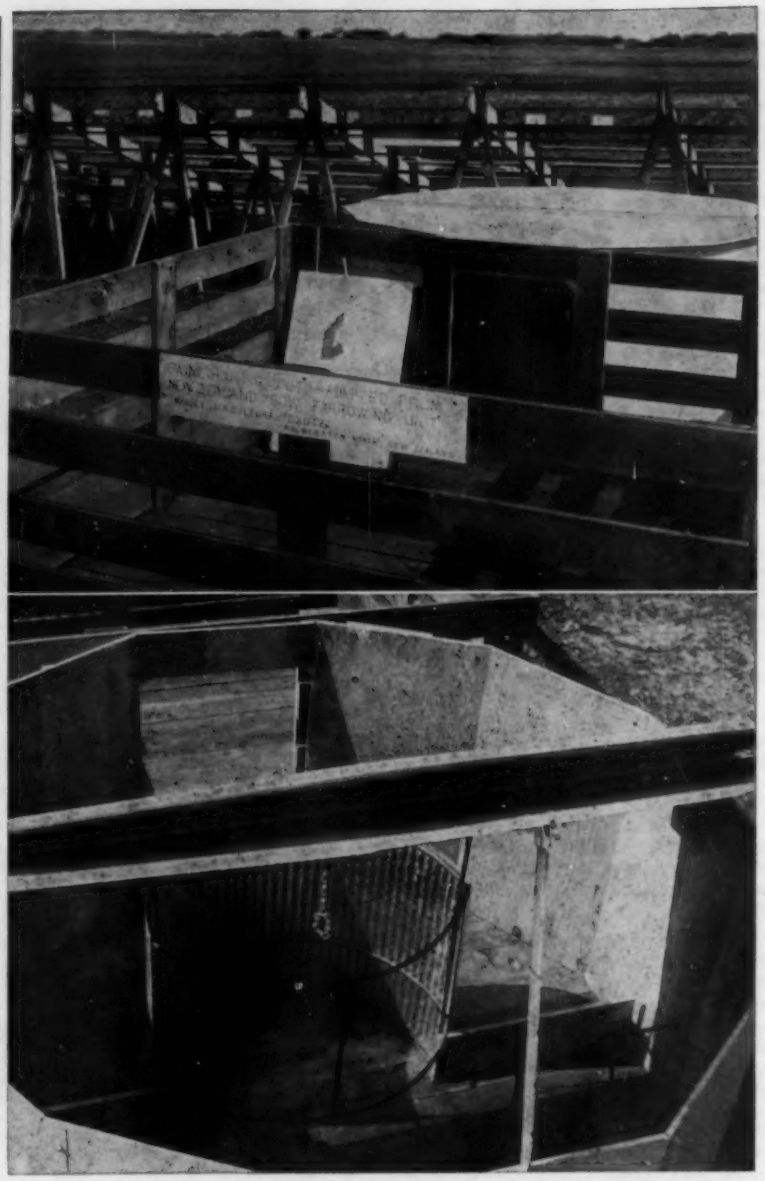

FARROWING UNIT—The Iowa adaptation of a New Zealand farrowing unit was on display at the annual agricultural engineering field day held at the Iowa State College research farm south of Ames recently. The Iowa adaptation is made of wood instead of the concrete called for by the New Zealand design, to help make it better adapted to the Midwest. Pictured at the top is the unit with the panel open between the pen and farrowing unit. Pictured at the bottom is the structure with both sides of the roof hinged up to maximum exposure.

the roughage source showed that in these experiments silage produced more FCM than hay on significantly less TDN per 100 lb. FCM produced.

Dextrin and Sodium Propionate: The effects of adding dextrin and sodium propionate to the concentrate fed to lactating cows were studied in an experiment conducted by Hawkins of Alabama Polytechnic Institute. The feeding of three kinds of hay-alfalfa, Johnson grass or Coastal Bermuda grass were tested also. Both actual and FCM production were higher on alfalfa and Johnson grass hays than on Coastal Bermuda grass hay; however, butterfat percentage was highest in milk from cows fed Coastal Bermuda grass hay. Neither actual nor FCM production was affected by dextrin or propionate feeding; however, daily butterfat production and butter-percentage in milk were depressed by dextrin or propionate feeding, as compared with the feeding of a regular herd concentrate composed of natural ingredients. In addition, cows fed concentrates containing dextrin and propionate gained more weight than cows fed the regular herd concentrate. A definite correlation was found between butterfat production and the concentration of acetate, but not propionate, in rumen fluid. The decreased butterfat production and increased weight gains resulting from dextrin and propionate feeding indicate that both of these substances influence fat metabolism in the lactating cow.

TDN Levels: In a Georgia experiment reported by H. L. Dalton, a set of Holstein-Jersey triplet heifers was used to test TDN levels of 75, 100, and 125% of Morrison standards, fed for 245 days, beginning when the calves were 192 days of age. The low-level fed calf received only alfalfa hay, while the other two calves received grain in addition to hay. After this period, all heifers were fed alike on adequate rations. Restricted TDN intake delayed the onset of first estrus 23 days later than the normal fed heifer and high level feeding caused early onset of estrus (23 days

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sooner than the normal fed heifer). Level of TDN intake also affected body weight gains markedly. Body weights of the heifers fed low, normal and high TDN levels were 504, 579, and 614, respectively, at the end of the 245 days experimental feeding period; 565, 769, and 835 lb. at first parturition; and 666, 885, and 907 at the end of the first lactation period. However, the low-level heifer produced 5,158 lb. 4% FCM during the 301-day lactation period as compared with 4,657 and 4,022 lb. for the normal and high level heifers. Therefore, although a below normal TDN intake during the growing period did not interfere with the first calving and lactation, normal body weight gains were not achieved. Under these circumstances, it would be suspected that later reproduction and lactation cycles may reflect the lack of adequate TDN intake in early life.

Fertilization and Maturity: The effects on forage quality of nitrogen fertilization and stage of maturity were investigated by Bratzler and coworkers of Pennsylvania State College. Two and three hundred pounds per acre applications of nitrogen increased protein content of orchard grass hay to 24 and 28% respectively as compared with 12 and 17% with 50 and 100 lb. per acre nitrogen application and also gave higher digestible energy values. The nutritive value of early cut forage was markedly higher than in two later cuttings at eight-day intervals. The 16-day interval between first and third cuttings resulted in maximum declines of 17.2% in digestible dry matter, 19.8% in digestible crude protein, and 18.1% in digestible energy, as determined by digestion trials with sheep.

New Jersey Hay Study: New Jersey researchers Ramage and associates compared the value of nitrogen-fertilized orchard grass hay with alfalfa hay for milk production. The feeding of orchard grass hays fertilized with either 50 or 200 lb. nitrogen per acre in an adequate milking ration in comparison with alfalfa hay failed to produce any significant differences in daily dry matter consumption, 4% FCM production, or body weight gains of the cows. In this experiment orchard grass hay appeared to be equal to alfalfa hay for milk production and body weight maintenance of cows. The calculated TDN values for the grass hay were somewhat higher than for the alfalfa.

Similar research with reed canary grass hay was carried out by Rutgers investigators Chalupa and co-workers. Nitrogen fertilization (0 to 100 and 200 lb. per acre) increased crude protein, ether extract and grass energy values in the grass hay while crude fiber and NFE decreased. Nitrogen fertilization also increased the digestibility of protein, energy, fiber and ether extract and amount of TDN and digestible energy to levels above those for the comparison standard, alfalfa hay.

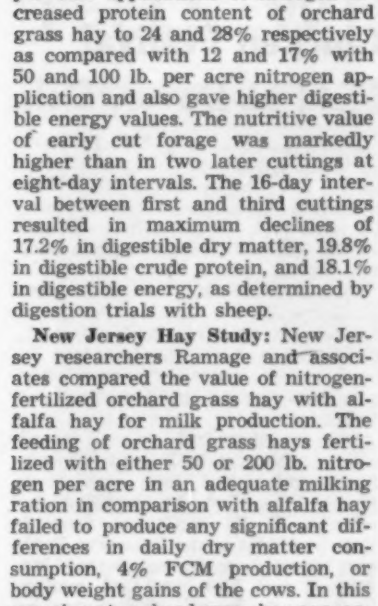
Supplemental Dry Feed: J. M. Wing of the University of Florida conducted an experiment to determine if the digestibility of succulent forages is increased by the addition of supplemental dry feed. This was an attempt to learn why dry feed supplementation usually controls scouring which often occurs in animals fed succulent forages. Although supplementation of succulent white clover or oats forage with pangola grass hay or dried citrus pulp slightly increased forage intake, there was no effect on dry matter digestibility of the rations fed.

Calcium and Phosphorus: The effects of calcium and phosphorus supplements on the digestibility of alfalfa hay by dairy steers were reported by J. H. Byers of the University of Illinois. One hundred grams of calcium carbonate daily significantly increased the digestibility of energy, crude protein and crude fiber of alfalfa hay, while 130 grams of dicalcium phosphate per day failed to give significant increases in digestibility values.

Dry Matter Digestibility: Kane and Moore of USDA at Beltsville studied the applicability of the Cornell formula for calculating dry matter digestibility of forage from its relationship with harvesting date, to forages grown at Beltsville. Using 14 forages, on which digestibility values were determined, it was found that there was an average error of 16% between the digestibility values calculated from the Cornell formula and the actual digestibility values as determined in digestibility trials. Therefore, it appears that the Cornell formula may not be applicable to other areas having different growing seasons, and will need to be corrected for these geographical differences in order to be useful. (The Cornell formula is based on the number of days between the harvesting date and April 30th, to give digestibility values which reflect the decline in digestibility of forage with advancing maturity.) The Beltsville workers used their data to alter the Cornell formula so that it gave comparatively accurate values for forages grown at Beltsville. The Cornell formula is $\gamma = 85.5 - 0.48\ X$, where γ equals dry matter digestibility and X equals the number of days between the forage harvesting date and April 30. The corrected version of the formula for use under Beltsville conditions was $\gamma = 74.02 - 0.393\ X$.

Ammoniated Beet Pulp: The effects of feeding ammoniated dried beet pulp on butterfat production were reported by Ward and associates of Colorado State University. They found in their experiments that the feeding of ammoniated dried beet pulp caused a marked depression of butterfat percentage in Holstein cows. However, when the dried beet pulp was added to a ration for Holstein steers as a replacement for hay, average daily gains and market grades were substantially improved. There remains a question, however, as to whether or not non-ammoniated beet pulp would exert the same effects in a milking ration.

Pelleted Concentrate: The effects of pelleting the concentrate mixture for lactating Guernsey and Jersey cows on the rate of concentrate consumption were reported in a paper presented by Blosser and Shaw of the State College of Washington. A complete concentrate mixture containing barley and oats as the grain portion was made into 3/16" diameter pellets. Rate of concentrate consumption at



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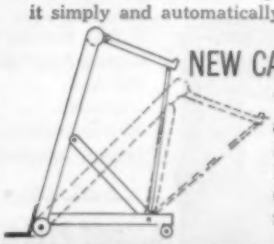

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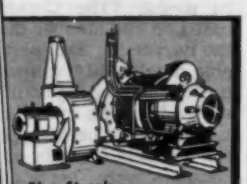

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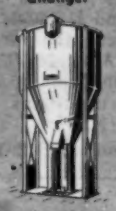

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the end of a two week feeding period was increased from 6.4 to 38.2%. These researchers stated their data indicate that, on the average, pelleting should give a 29% increase in the rate of concentrate consumption in an 8-minute period. Although pellet feeding tended to slightly depress milk butterfat percentage, pellet feeding increased actual and 4% FCM production.

Peak Production: An analysis of milk production records collected over a 40-year period revealed some interesting relationships in an Arkansas study reported by Rakes and associates. It was found that older cows require longer to reach peak production (38.3 days for Holsteins and 42.7 days for Jerseys). Mean production peaks tended to be higher after the third lactation. The average increase in peak production in subsequent lactations over the first lactation ranged from 15.4% in the second to 47.9% in the eighth for Jerseys and from 18.6 to 92.0% in respective lactations for Holsteins. Also, there was a high correlation found between peak milk production and total lactation milk yield.

376 Million Bushels Of 1958 Corn Under Support on June 15

WASHINGTON—The U.S. Department of Agriculture announced recently that 376,172,190 bu. of 1958-crop corn were put under price-support loans and purchase agreements through June 15. This is an increase of 7,966,088 bu. from the 368,206,102 bu. reported as of May 31, and compares to 365,276,009 bu. of 1957-crop corn under support as of June 15, 1958, and 475,766,694 bu. of 1956-crop corn as of June 15, 1957.

Of the June 15, 1959, total, 327,290,718 bu. were under farm-stored loans, 14,488,560 bu. under warehouse-stored loans and 34,392,912 under purchase agreements.

Of the total of 376.2 million bushels of 1958-crop corn put under support through mid-June, 150,433,967 bu. (about 40%) were from farms not in compliance with 1958 acreage allotments.

The USDA also compiled preliminary figures on the 1958-crop soybean takeover as of June 15. The soybean takeover, normally on May 31, was on June 1 this year. Through June 15, farmers had repaid loans covering 36,980,639 bu. of 1958-crop soybeans and had delivered to USDA 50,873,937 bu. in payment of loans. A total of 140,520,749 bu. of 1958-crop soybeans were put under price-support loans and purchase agreements.

Swift & Co. Researcher Receives Doctorate

CHICAGO—Dr. B. J. Walker of the animal feed research division of Swift & Co., Chicago, was officially awarded a Ph.D. degree in animal nutrition by Purdue University.

B. J. Walker

This was announced recently by E. D. Hall, head of the personnel division of Swift's research laboratories.

Dr. Walker's B.S.A. and M.S. degrees, both in animal husbandry, were obtained at the University of Arkansas.

FIRE DESTROYS ELEVATORS

GERALDINE, MONT. — Fire recently destroyed the L. H. Palmer grain elevators and contents at Geraldine. Some 50,000 bu. of grain were lost. The blaze apparently started in the elevator office and spread rapidly to the grain storage bins connected to the office. Two railroad cars on a siding were damaged.

CROWNED QUEEN—Nina Lou Ringler, 16, Selbyville, Del., is presented the Miss Delmarva crown by Delaware's Gov. J. Caleb Boggs, as one of the events of the recent 12th annual Delmarva Chicken Festival.

Annual Delmarva Chicken Festival Held at Dover, Del.

DOVER, DEL.—The 12th Delmarva Chicken Festival held recently at Dover saw the crowning of a Miss Delmarva, presentation of a Delmarva annual "distinguished citizen" award, chicken cooking contests and, of course, a parade.

Miss Delmarva is Nina Lou Ringler, 16, Selbyville, Del. She was presented the crown by Delaware's Gov. J. Caleb Boggs. Miss Ringler plans to be a home economics teacher after graduating from the University of Delaware.

The "distinguished citizen" award went to William R. Murray, grower, hatcheryman and feed man from Ocean View, Del. In awarding the citation, C. Ed McCauley, Seaford, Del., president of the Delmarva Poultry Industry Assn., noted that Mr. Murray had built his first poultry house in the middle 1920's, that he had designed the first bulk feed bin used on the Delmarva Peninsula, was responsible for designing automatic window ventilators for poultry houses, and had shown the way to the industry in many other cost-cutting improvements.

A crowd estimated at 50,000 watched the parade, made up of 130 bands, floats, fire departments and marching units, in addition to entries from the Antique Automobile Assn., and dignitaries' cars. The three winning floats in the poultry division were: Marker's Hatchery (first); Ralston Purina Co. (second), and Beacon Milling Co. (third).

Winner of the senior chicken cooking contest was a 29-year-old housewife from Lawton, Okla., Mrs. Gordon L. Kinley, wife of an army lieutenant colonel stationed at Governor's Island, N.Y. Her recipe, "chicken imperial," was judged best by a panel of food editors and home economists from among 177 entries representing 27 states.

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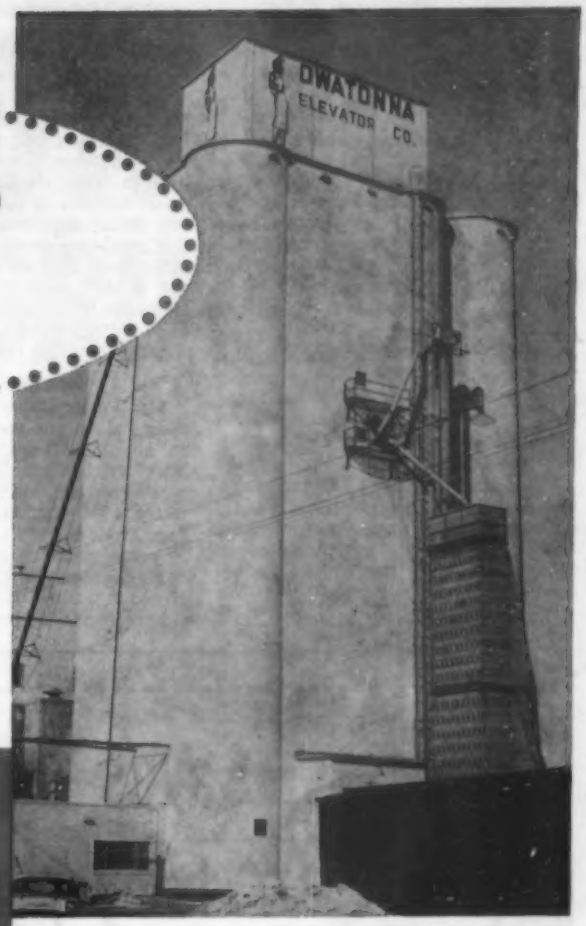

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"We have found in the past year that Dry and Liquid Molasses both have a place in our mill. Adding Scotch O Lass to our ingredient list, gave an additional 75 ton, with a new product, while our liquid tonnage enjoyed an increase."

Robert Johnson, Manager
Owatonna, Minnesota

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Speaker Reviews Swine Feeding at Washington Event

PULLMAN, WASH.—A review of swine feeding practices was presented by Joe B. Johnson, extension livestock specialist, at the recent Washington State College Sheep and Swine Day.

Speaking of proteins for swine feeds, Mr. Johnson noted that a recent Midwest experiment showed favorable results from an all vegetable protein source in the ration, but noted that it is known that some animal protein is necessary for best growth performance.

"The price differential between animal and plant proteins is sometimes quite wide. It is under this situation that requests for large amounts of plant proteins in the ration are received," the speaker said.

"A rule of thumb which is still valid in feeding protein to swine is to start the weaning-age pigs on a 20% protein diet and decrease the protein content 1% with each 20 lb. of weight gained. This means that a 200 lb. market hog would be getting a 14% protein feed. A good protein supplement for swine should contain at least 5% protein from an animal source. The usual sources of protein in Washington swine supplements are tankage, fish meal, pea meal, soybean meal, alfalfa meal and skim milk. The price per pound of digestible protein obtained is the important consideration in deciding which source to use in mixing a protein feed."

Feeding for Lean Pork

Mr. Johnson also made a few comments about the possibility of feeding to get leaner pork, and mentioned that articles have appeared in farm magazines stating that it is possible to control the amount of carbohydrate feed given to hogs and obtain carcasses containing a large amount of lean.

He went on to say, however, that research at the U.S. Department of Agriculture's Beltsville center and at the University of Missouri shows that to produce meat hogs profitably a person will need to breed the fat off rather than try to feed for leaner pork.

At Missouri, when pigs were studied between 150 and 300 lb. liveweight, lean weights of hams increased about 75% while the fat content went up about 300%.

Feed costs per pound of gain increased as the hogs got heavier. Under present Washington feeding practices, if a person decreases the amount of carbohydrate in the ration or increases the amount of protein in an attempt to produce a leaner carcass he will invariably decrease the rate of gain and feed efficiency of his pigs, and increase the cost of gain. It is recommended, therefore, that our swine producers follow the presently best known feeding procedures and produce meatier animals by breeding meat hogs, Mr. Johnson said.

The speaker discussed using barley in swine rations, mentioning that experiments have shown that barley ordinarily has about 90% of the feeding value of corn for growing-fattening hogs. "This difference is due to the fibrous hull on the barley. Pioneer work by McGinnis and his associates, with poultry, at the State College of Washington, showed that either soaking barley or the addition of certain amylase enzyme materials aided in the utilization of this barley by chickens," Mr. Johnson said.

"The theory has been built up that the digestive enzymes of the pig are not completely capable of handling barley components, and that the feed manufacturer may help out the pig by the addition of certain enzyme preparations to the feed mix."

Some studies along the line of enzyme supplementation of barley have been made at Oregon State College with swine. Some improvement in the performance of pigs of light weight was noted when their ration had amylolytic enzyme added to it. Further research on this problem is currently under way at a number of experiment stations, according to the speaker.

Research on the use of animal fats in rations has shown that the use of animal fat in a ration as a source of carbohydrate does not interfere with the rate of gain or feed conversion efficiency, nor does the use of fat in the ration affect carcass quality, the livestock specialist reported. "Trials carried out at West Virginia, Oregon and our own experiment station would indicate that about 5% of fat added to the diet, so that the total fat content runs around 8-10%, is satisfactory. However, the fat must be stabilized with an antioxidant, and should cost not more than three times what barley can be bought for per pound," according to Mr. Johnson. "Another problem is that rations for swine containing fat do not pellet satisfactorily."

Palatability of a feed may be determined by the texture, the smell or the flavor, the speaker continued. "Many baby pig creep feeding rations which have been highly recommended have not been satisfactory because the pigs would not eat these rations at an early age. In some cases this was because they did not care for the texture of the pelleted ration. It must be remembered, then, that for pigs the palatability of the ration concerned is of first importance.

In summary, Mr. Johnson said there are several developments in swine feeding which will need to be watched during the coming years: (1) The use of enzymes in rations; (2) the use of animal fat as a source of fattening material; (3) the use of antibiotics in swine rations, and (4) the use of highly fortified baby pig creep feeding rations.

"It is interesting to note that the American Feed Manufacturers Assn. just this month sent a memorandum to its membership stating that the use of antibiotics and medicants in feeds do not replace proper management, sanitation and feeding practices in swine production," he concluded.

Cattle Group Names Executive Secretary

DENVER, COLO.—Appointment of C. W. McMillan, representative of Swift & Co., Chicago, as executive secretary of the American National Cattlemen's Assn., was announced recently by G. R. Milburn, president.

C. W. McMillan

Mr. McMillan will fill the position left vacant last February with the death of Radford S. Hall. David O. Appleton, editor of the association's magazine, "The American Cattle Producer," has been acting secretary.

Mr. McMillan will assume his new duties in August. His appointment is subject to formal confirmation by the association's executive committee, representing the 29 affiliated state cattle organizations.

He is a native of Fort Collins, Colo., has been with Swift's agricultural research department since 1954. Previously he had served with the Colorado Extension Service as county agent in Sedgwick and Conejos counties and as assistant 4-H leader in Denver county. He is a 1948 graduate of Colorado State University, and served on the CSU resident staff before joining Swift.

Day Sales Meeting Held in Minneapolis

MINNEAPOLIS — Latest developments in methods and equipment used for pneumatic conveying and bulk storage for industry was the number one subject of interest to 35 sales representatives of the Day Sales Co. when they met recently at the Curtis Hotel in Minneapolis.

New and recent improvements in pneumatic conveying equipment and dust control equipment were announced during the three day meeting.

The Day Sales Co. is the subsidiary of the Day Co., Minneapolis, which manufactures bulk material handling and dust control equipment for industry.

A highlight of the meeting was an explanation by Dr. Ralph G. Nichols, University of Minnesota, on how efficient listening can increase sales. Dr. Nichols' research on listening has led to training programs in education, industry and government.

Plant Starts Operating

LENNOX, S. D.—A new Nutrena Mills commercial feed manufacturing plant began operation at Lennox recently. Although some work is yet to be done on the quarter million dollar project, the plant will continue the manufacturing operations at a below normal capacity until facilities are completed.

Saves orphan baby pigs!

Land O'Lakes Pig Milk Replacer saves orphaned pigs as no other product can because this is a *milk product*. Contains 10% fats, has 22% extra calories. Suggest it to your customers for situations in which the sow won't or can't nurse, is sick or dies.

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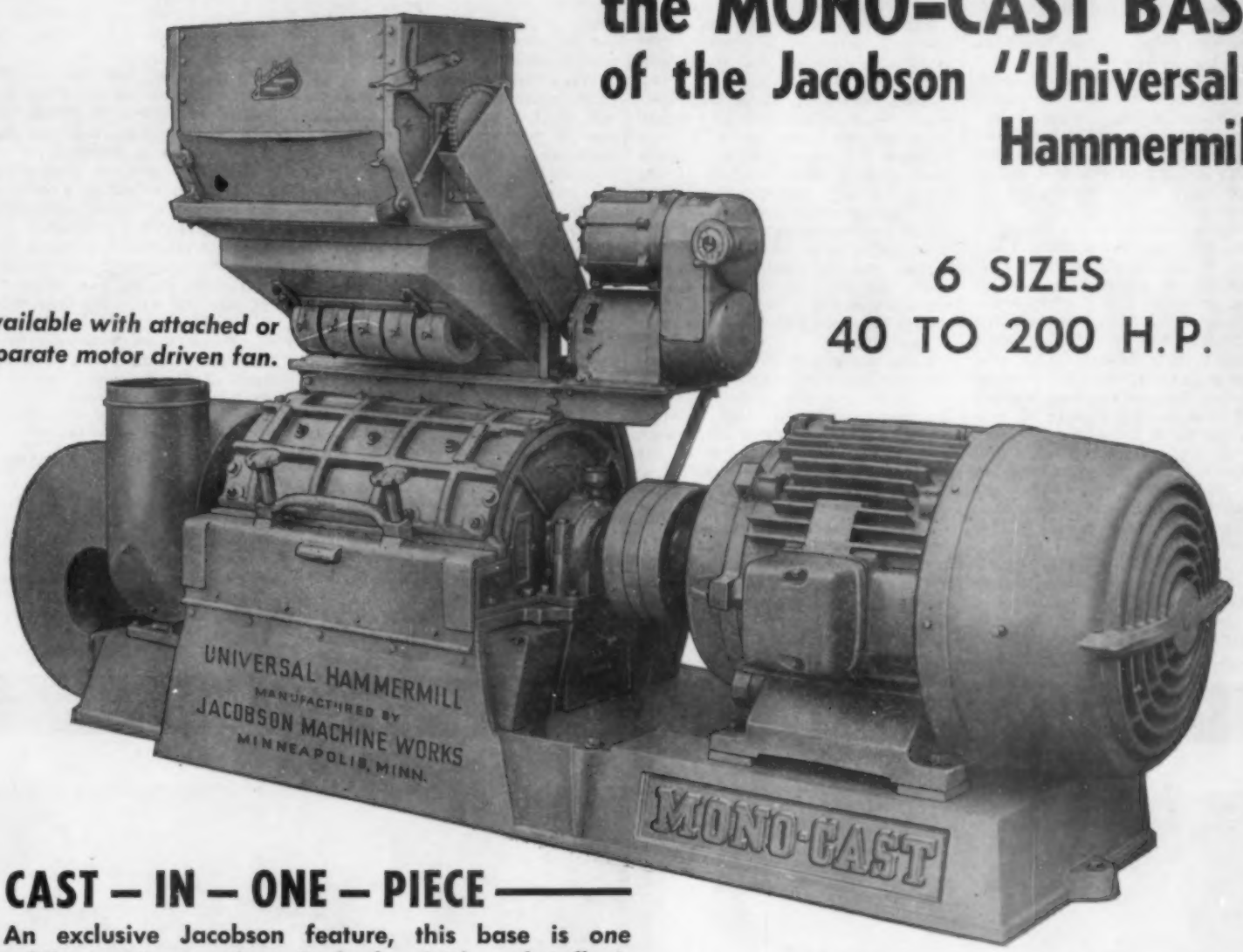

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Available in Model C (illustrated), for small, free-flowing grains, and in Model S for bulky materials.

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Here Are Some Tips to Help You Save Time When Salesmen Call

By Ernest W. Fair
Feedstuffs Special Writer

"Half my day seems to be taken up with time wasted in talking to salesmen. I wish that I could do something about it!"

The feed firm executive who made this comment can do something about it. Hundreds of his colleagues have taken positive steps to not only reduce the time given to contacts with salesmen but to make this very necessary procedure more profitable with less effort.

Here are some of their methods you can put to use:

Establish time limits of varying nature adjusted to the salesman's lines and one's needs. Let each salesman know the amount of time allotted him and stick to it every call. No such system can be effective unless adhered to on every contact.

Eliminate the "fol-de-rol" of contacts with salesmen. If the executive can save just six minutes per call and he sees 10 salesmen in a given day, this saved time will add up to a full hour in a working day. The key to using this tip is in taking the initiative on each sales talk and getting down to business immediately.

Time is, in truth, the most precious commodity the good salesman has and he is just as anxious to save his own as the executive should be his. Most salesmen feel every contact wants "window dressing" added to the basic sales call; but the moment they are convinced otherwise they will change their approach and cooperate in saving the feed man's time.

The salesman has the data regarding his goods at hand, take it then and there for later checking unless an order must be placed immediately. Permitting the salesman to unnecessarily run through all such data word for word is always a time waster when the executive plans to restudy and recheck it later anyway.

Have other things to do if the salesman is the type who persists in running beyond conventional time allotments. We all know such individuals, and permitting oneself to be badgered by such individuals is always unnecessary.

For the salesman who calls regularly, it will be an invaluable time-saver to organize your want lists ahead of his arrival.

Know something about the salesman's merchandise ahead of his call. There are many opportunities in one's business day to do a little research work without waste of time. If you have such data and questions ready for the salesman, you can always obtain information much quicker than if no preparation has been made.

Steer clear of gossip and idle chit chat; the greatest time-wasters in the business life of any executive no matter how enjoyable they may seem at the time.

Save matters of a policy nature between your firm and the salesman's for direct communication with his company's executive officers. After all, he can do very little about such matters anyway. They can be set forth in a letter during dictation in a quarter of the amount of time needed to present them to the salesman.

If the salesman is a stranger and has a new line or new item, tell him frankly at the very start that you are busy but you can give him five minutes to "get the point." If what he has to offer merits serious consideration, you can always extend that time. If not, the deadline has been set in advance.

Talk with each salesman in a spot where there is little chance of being disturbed. Whenever a sales conversation is interrupted a new chain of thought must be built up between that salesman and the executive.

Refuse to do business with the man who is never well organized and places no value on his own time. He will soon learn that he must conform to make a sale and will be glad to do it.

Give the salesman room to work on your desk or on an adjacent small table. He can always get his job done more efficiently under such circumstances than otherwise.

Have just one definite item to order the moment the salesman enters your office. That gets down to business without time waste. Once a salesman's order book is out and in use he unconsciously concentrates on adding items to the first given him.

When "No" is the answer, be emphatic about it. Don't leave him even the slightest possibility that he can change your mind. A really good salesman continues his efforts whenever there exists the slightest chance to make a sale. It is part of good selling. But when he has become thoroughly convinced no such slight possibility exists, no time will be wasted by his sales effort.

Cut down on the coffee breaks with salesmen. They stretch a normal 15-minute sales interview into 40 minutes or more and accomplish nothing additional, whatsoever. One here and there may be necessary to relieve tension, but don't let those breaks get out of hand.

If you are concentrating your buying with a few firms in one line do it all there. Don't waste your time and the salesman's on piddling orders just to keep him coming around. He's not making any money on such orders and you, too, are definitely losing.

If there is a real need for weekly calls, well and good, but, if not, suggest that he call once a month and order in quantities.

Pelleted Range Brush Used as Roughage in Steer Feeding Tests

SACRAMENTO, CAL.—The California division of forestry is sponsoring a steer feeding trial using pellets made from range brush.

The trials are being conducted on the Cuneo Brothers ranch near Jackson, Cal. A chemical analysis of the feed before the addition of molasses to increase palatability showed that nutritionally it was similar to oat hay or sudan grass hay.

According to Norman Dal Porto, division range specialist in the Jackson area, the pellets are not being fed as a complete ration, but only for their roughage value. A grain ration composed of rolled barley, dried molasses beet pulp and cottonseed meal also was fed.

Steers which received an alfalfa pellet ration averaged about 30 lb. heavier than those fed brush pellets.

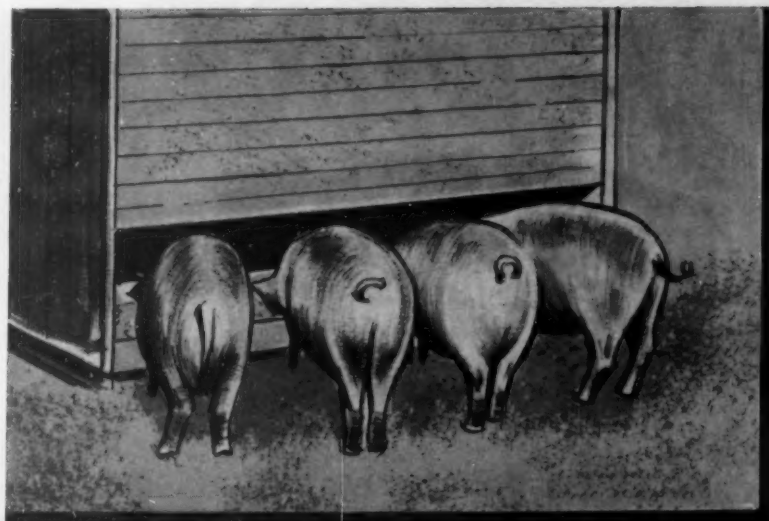
Dr. Lee Burcham, who is in charge of the division of forestry's range management program, says about 20 million acres of California range lands have stands of brush dense enough to be considered a problem.

"Many ranchers," he said, "know such brush can be a valuable source of feed during the late summer and fall after the grass has dried. Natural range feed is extremely low in nutritional value, especially in protein and Vitamin A at that time. Some of the deficiency can be supplied by brush where livestock will browse it."

FEED FIRM EXPANDING

CHEROKEE, IOWA—The France Grain & Feed Co. is expanding its facilities here again. Ray B. France says the firm already has installed a new corn roller machine for specialized feed processing purposes. Foundation work will begin soon on a 40x102 ft. flat type grain storage warehouse.

PURE CANE SUGAR is the secret



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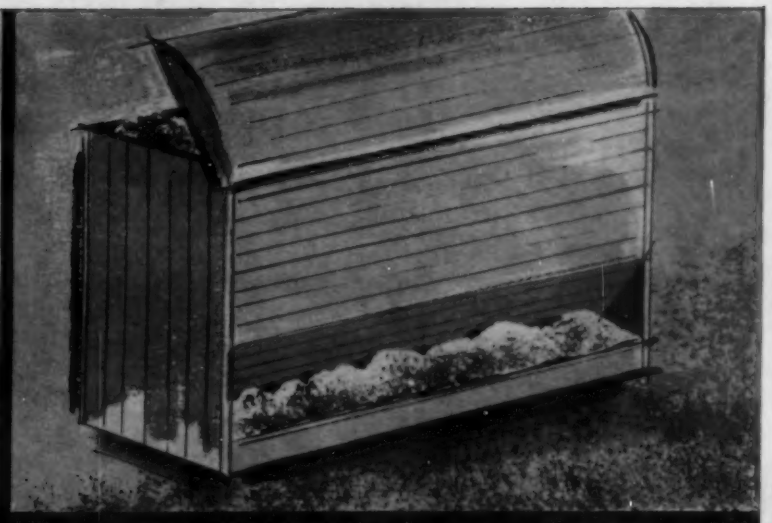

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Purdue Swine Day to Include Presentation Of Research Reports

LAFAYETTE, IND.—Several swine research reports will be presented Aug. 28 during Purdue University's 39th annual Swine Day at the livestock experimental farm. The event is sponsored by the department of animal science.

Featured at the morning program will be experimental results indicating the proper supplementation of corn-soybean oil meal rations for growing and finishing pigs on concrete. Visitors will see experimental results on the effect of trace mineral, growth factor and enzyme supplementation of corn-soybean oil meal rations. Results of comparing corn-tankage (a 1909 ration) with corn-soybean oil meal (a 1959 ration) will also be released.

Other experimental results include the response of swine fed high energy diets and cooled with a sprinkler, effect of various antibiotics and combinations of antibiotics for growing and finishing swine and effect of pelleted gestation rations for sows and gilts.

In the afternoon session Dr. Richard Hollandbeck, swine extension specialist at Purdue, will discuss "Indiana's Swine Evaluation Station—A Progress Report."

Two talks will feature feeder pigs. E. S. Matteson, department of animal husbandry, University of Missouri, will talk about "Specialized Production of Feeder Pigs" and Charles Yeager, assistant superintendent of the Alabama Polytechnic Institute's Tennessee Valley substation, will discuss "Feeder Pig Management —Farm to Feedlot."

Dr. J. A. Hoefer, department of animal husbandry, Michigan State University, will emphasize "New Developments in Swine Feeding and Nutrition."

California May Need More Distant Beef

TUCSON, ARIZ. — Southern California is growing in population to such an extent that nearby states no longer will be able to supply the area's beef requirements, according to a new University of Arizona research bulletin, "Los Angeles Market for Western Cattle."

Agricultural economists say in the bulletin: "This is important to Arizona because Los Angeles is the big market for Arizona beef—both feeder cattle and slaughter cattle. In the 1922-54 period Arizona furnished 28½% of stocker and feeder cattle going into California. New Mexico provided 13%, Texas 12% and Nevada nearly 11%.

In this same 32-year period Arizona was the most important out-of-state source of cattle for immediate slaughter, furnishing more than 25%. Nevada furnished 14% and Utah, Texas and Idaho each more than 10%.

In 1965 Los Angeles County will be calling for 260,000 more head of cattle than it was getting in 1955, according to the Arizona bulletin. The economists say that is more cattle than Arizona feeds out in a year.

The economists add that in the next 10 years Los Angeles County will have to start reaching farther for its beef, probably getting more from Wyoming, California, Nebraska, Kansas and the northern plains—competing more directly with Denver, Kansas City and Chicago livestock markets for beef.

Agriculture Foundation Names Pfizer Executive

NEW YORK—J. Jerome Thompson, vice president of Chas. Pfizer & Co., Inc., and general manager of its agricultural division, was elected to the board of directors of the Foundation for American Agriculture at its recent annual meeting in Washington, D.C.

The foundation is a non-profit educational organization devoted to creating better understanding between city and farm people, and promoting national recognition of the importance of agriculture to our country. Serving on the board are business, industry and farm organization representatives and farmers and educators.

Mr. Thompson was instrumental in organizing Pfizer's agricultural division in 1952, and he helped establish the Agricultural Research & Development Center for animal nutrition and disease research at Terre Haute, Ind. Under his leadership, Pfizer has taken an active role in support of the National 4-H Club and Future Farmers of America Foundation.

BROODER HOUSE—This 34 by 300 ft. brooder house was completed recently by Honeggers' & Co. of Fairbury and Forrest, Ill. The house contains 15 pens, each 20 by 34 ft., with a capacity of 9,000 birds. The completion of this building, in conjunction with recently remodeled laying houses, allows for testing a greater number of birds in the Honegger breeding program each year.

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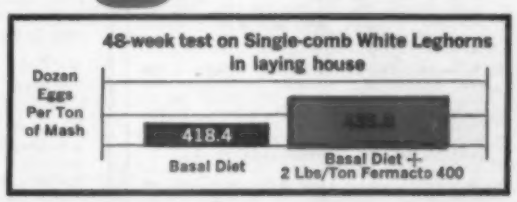
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And for economical production without *over-fortification* try Borden's 300 the balanced laying mash supplement containing fermacto 400 and all essential micronutrients at about $1.25 per ton on an all-mash basis. For *custom* blended micronutrients, too, contact your Borden's field man.

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WANTED—USED

Pelleting Equipment
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Preferably Available East Coast

Write—American Resources Corp.
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FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

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PORTABLE ALFALFA HAY GRINDER, complete with auxiliary equipment. P. O. Box 85, Cozad, Neb.

COMPLETE FLOUR MILL EQUIPMENT— Fount Crow, Inc., Beaver Dam, Ky.; Phone BR 4-4411.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FRUEHAUF TANDEM FEED TRAILER— Automatic conveyor belt unloader, 1956 model, 32 ft. long. Ben's Auto & Truck Parts, 5915 North Detroit Ave., Toledo, Ohio; GR 4-5727.

FOR SALE—ENCLOSED MOTORS; RICHardson Scales; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FOR SALE—NEW 1959 INTERNATIONAL Propane gas truck, equipped to haul 9 tons bulk feed in three bins. Hydraulic, 2-cylinder hoist. New Sprout-Waldron air blower, 14 ft. body. Cost over $10,000, will sacrifice. Frederick H. Phinney, Mannsville, N. Y.

FOR SALE—ONE 38 DUCT. DOUBLE OR dual verti-flo feed and grain distributor. Can be separated to make two distributors, if needed. Used little. As good as new. Jerome Turkey Farms, Inc., 506 W. Division Avenue, Barron, Wis.; Phone: Lenox 7-3133.

SALE—ALUMINUM TANKS, 18,000, 3,000 gal. Dewatering presses; Davenport No. 1A, 3A, Louisville 8-roll 36". Three Louisville rotary steam tube dryers, 6'x50', 6'x25'. Screw conveyor, trough belt conveyor, bucket elevator, bins, etc. Perry, 1403 N. 6th St., Philadelphia 22, Pa.

FOR SALE—NEW AND RECONDITIONED Richardson, Burrows, O. K. and Fairbanks bagging scales; Union Special, Minneapolis and Wilcox & Gibbs sewing heads. Whizzer bagging conveyors, bins. Winborne, Mill Equipment Service, Williamsburg, Iowa.

HELP WANTED

FUMIGATION MANAGER — MUST BE capable of handling grain fumigation and the sale of allied products. Fine opportunity for right man. Replies confidential. Send complete resume to Ad No. 5001, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED FEED SALESMAN WANTed to represent old, established firm in part of Pennsylvania. Salary, commission and company car. Excellent opportunity for right man. Address Ad No. 5015, Feedstuffs, Minneapolis 40, Minn.

SALESMAN — NATIONAL FEED MANUfacturer seeking salesman experienced in agricultural field for work in Michigan territory. This is an opportunity to establish a satisfying career in a growing industry. Write with qualifications to W. G. Stokes, District Sales Manager, 12730 Beck Road, Plymouth, Mich.

EDITORIALLY TRAINED MAN WITH experienced working knowledge of country grain elevators and, if possible, feed nutrition and research, for position on trade paper. Please give all qualifications in first letter, experience, education, family, references, salary, etc. Write Ad No. 4989, Feedstuffs, 2832 Board of Trade Bldg., Chicago 4, Ill.

REPRESENTATIVE NEEDED BY LEADing publisher of specialized farm magazines to call on hatcheries, dealers and producers to sell complete service package. Sales experience essential. Extensive travel. Must have car. Salary, expenses and other company benefits. Replies confidential. Address Ad No. 5004, Feedstuffs, Minneapolis 40, Minn.

OUTSTANDING OPPORTUNITY FOR young man experienced in grain purchasing, hedging and soybean meal sales. Will assume direction of this department at our new soybean plant located in Guntersville, Ala. Excellent fringe benefits. Send detailed resume of your education and business experience to Allied Mills, Inc., P. O. Box 147, Guntersville, Ala.

VETERINARIAN

Veterinarian position now available for a man with a background in nutrition and use of feed medications. Will coordinate new product field projects for leading national manufacturer of feed additives and animal health products. Must have knowledge of drugs used for poultry and animal growth and health. Travel required in contacting universities, agricultural experiment stations, etc. Qualified to plan projects, analyze and evaluate results. Please reply to Box No. 5009, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED — MEN CALLING ON WHOLESALE FEED DEALERS AND FEED MANUFACTURERS IN THE FOLLOWING STATES:

Minnesota	North Dakota	Kentucky
Wisconsin	South Dakota	Montana
Ohio	Idaho	Tennessee

To handle line of pressure processed and extruded type dog food and dried molasses. In answering please give products now being handled and territory you cover.

Address Ad No. 5000
Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

CHEMIST FOR ANALYTICAL AND DEvelopment work in agricultural department of independent laboratory. Some experience in feeds preferred. Give full details. Address Ad No. 4995, Feedstuffs, Minneapolis 40, Minn.

SITUATIONS WANTED

SALES MANAGER AND NUTRITIONIST desires a change. Age 34 and married. College graduate, good record. Address Ad No. 4999, Feedstuffs, Minneapolis 40, Minn.

DOG FOOD, LIVESTOCK AND POULTRY serviceman, with sales experience. Can furnish own dog food formula, proven in our own kennels. Now handling started pullets. Age 35. Address Ad No. 5011, Feedstuffs, Minneapolis 40, Minn.

CREDIT MANAGER—LARGE FEED COMpany. Age 38; 13 years' experience manufacturing. Previous retailing experience. Specialize in dealer financial and management development. Address Ad No. 5005, Feedstuffs, Minneapolis 40, Minn.

GENERAL SALES MANAGER — HIGHLY successful record in increasing sales and profits for manufacturers of agricultural supplies, chemicals and animal feeds. Broad management experience in sales, market research, advertising, promotion, merchandising, product development, corporate acquisitions, financing and general business management. Proven ability to organize and develop an aggressive marketing program and to direct and manage a national sales organization. Age 42. Salary level about $25,000. Address Ad No. 5012, Feedstuffs, Minneapolis 40, Minn.

EQUIPMENT FOR SALE

FOR SALE—MOISTURE TESTERS; Surplus Universal moisture testers Model MA, first class condition. Ralston Purina Co., Engineering Department, St. Louis, Mo.

Buy Only Seedburo
Guaranteed Factory Rebuilt

STEINLITE Moisture Testers

Remember all Seedburo Steinlites are rebuilt by the Fred Stein Laboratories in Atchison, Kansas, who are the manufacturers. Each unit is completely rebuilt and carries full year guarantee. For details and prices write Dept. FS.

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618 W. Jackson Blvd., Chicago 6, Ill.

BUSINESS OPPORTUNITIES

FOR SALE—FEED, SEED, FERTILIZER and produce business. Northern Iowa location, good community. $150,000 volume, inventory plus equipment. Address Ad No. 4981, Feedstuffs, Minneapolis 40, Minn.

SPANISH CONCERN ENGAGED IN THE business of feedstuffs and vitaminic and mineral additives wishes to approach American firm in this field interested in the Spanish market. Write: P. O. Box 3051, Madrid, Spain.

FOR SALE — SEVERAL GOOD GRAIN elevators and feed mills in Indiana. Financing can be arranged on most, also one feed manufacturing plant in southwestern Indiana, servicing over three hundred wholesale accounts. Boyer & Nail, Real Estate Broker, Milroy, Ind.

FOR SALE

Feed & Grain Handling & Processing Equipment

NEW & USED

Scales, Hammermills, Feed Mixers, Sewing Machines, Elevators, Pellet Mills, and Grain Cleaners

E. H. Beer & Co., Inc. Ibsen Ave. & Newkirk St. Balto. 24, Md.

PELLET MILL

Brand New Latest Model 30 H.P. Pell-O-Matic Dry Pellet Mill complete, ready to run with 3 new dies, ¼-⅜-½, fully automatic operation, no steam required, up to 25 sacks per hour. Will sell for cash, less than ½ price $2,850; 10' steel motorized bucket elevator to feed mill if required $150.

ROSS, INC.
12 N.E. 28th St. JA 8-2132
Oklahoma City, Okla.

BUSINESS OPPORTUNITIES

THIS IS A SLEEPER—FEED AND COAL business, founded 53 years. Never before offered for sale. Only coal franchise in town. Death of husband and partner. Widow age 74 forced to sell. Location in prosperous feeding farm district in Marshall County; $112,000 gross without management or salesman in 1958. Located on main street. Five large city lots on G. W. Railroad. Modern feed storage, office space. Room for expansion. No reasonable offer refused. Terms if needed or lease with option to buy. Books open. Write for full particulars. Mrs. C. E. Anderson, State Center, Iowa.

Hormone Implant Level Reported

BLACKSBURG, VA.—Tests at Virginia Polytechnic Institute indicate that the 12 mg. level of stilbestrol implant is best for grazing steers.

In the experiments, heavy steers were grazed on native bluegrass pasture. At the beginning of each grazing season, different lots of steers were implanted in the ear with stilbestrol in the following amounts: None (control), 12 mg., 24 mg., 36 mg. and 48 mg.

At 24 mg., only a tendency for further increase in rate of gain was seen. In fact, at all levels higher than 12 mg., the rate of gain did not significantly increase, researchers said.

The 12 mg. rate did not affect carcass grades. But 24 mg. of stilbestrol tended to lower carcass grades. At 36 and 48 mg. rates, carcass grades declined about one third of a grade, as compared to the control lot and the lot with only 12 mg. of the drug.

VPI research workers concluded that the 12 mg. level gives the highest rate of gain in grazing steers consistent with good carcass quality.

Organization Change

NEW YORK — North American Philips Co., Inc., has announced that its pharmaceutical and fine chemical department has been transferred to an affiliated corporation, Philips Roxane, Inc. Operations will continue with the same management and personnel.

The new corporation is a wholly-owned subsidiary of Philips Industries, Inc., a sister company of North American Philips Co., Inc. The Philips organization was the first in this country to introduce dry stable Vitamin D to the pharmaceutical field, it is noted in a company report.

man conquers mountains

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Ames In-Cross Names Sales, Promotion Man

DES MOINES, IOWA — C. Hugh Schwab has been named to handle sales and promotion activities for Ames In-Cross, hybrid chicken producer, Des Moines, according to Edwin L. Fox, president of Foxbilt, Inc., the parent company.

C. H. Schwab

Mr. Schwab has been with Ames In-Cross for 11 years as midwest representative.

Mr. Schwab announced the development of three complete lines of layers. "The new program was developed in response to widespread hatchery demands for hybrid and crossbred lines that can be sold in both competitive and low price ranges, as well as the premium, top-producing hybrids that have been offered in the past."

A line of in-bred cross birds known as "Imperial" layers and a hybrid line known as "Royal" layers will be offered, with a choice of white, brown and tinted egg layers, according to Mr. Schwab. Breeder males will also be made available to hatcheries for production of crossbred layers.

"This new three-way program is the first of its kind, offering hatcheries a single source for every type of layer in a complete price range," according to Ames In-Cross.

4th Southeastern Egg School Held Recently

ATLANTA, GA.—The Southeastern Poultry & Egg Assn.'s educational program gathered steam recently with the completion of the association's fourth annual egg quality and grading school at Mississippi State College.

More than 141 students from nine southeastern states attended the week-long school, according to Harold Ford, executive secretary.

H. C. Kennett, Jr., U.S. Department of Agriculture poultry marketing specialist, highlighted the educational program with a break-out test and explanation of USDA's proposed new egg-grading program.

Another highlight, according to Mr. Ford, was a panel discussion on "Packaging and Handling Techniques," moderated by James Hill, head of the Poultry Department at Mississippi State College.

Amount of Replacer Equal to Milk Found In Iowa State Study

AMES, IOWA — Experiments at Iowa State University have shown that about 16.2 lb. of a high-fat dry milk replacer are required to replace 100 lb. of milk containing 4.3% fat.

This finding comes from tests conducted to reveal the most economical practical veal calf rations. Dr. N. L. Jacobson, professor of dairy husbandry, said seven groups of 10 calves each were used in the tests.

Control groups of calves received whole milk. Each of the three milk replacers tested contained 18% lard oil. Besides the lard oil, one milk replacer contained 40% dried skim milk, 22% dried whey and 20% dried distillers solubles. Another contained, besides the lard oil, 40% dried skim milk, 22% delactosed dried whey and 20% distillers solubles. The third used 52% dried skim milk and 30% dried whey.

The researchers used two feeding programs, both for the milk-fed and the replacer-fed calves. In the high-level feeding the milk-fed calves averaged 969 lb. of milk per head during the 11-week experimental period and those on the low-level averaged 898 lb. They all had high-quality alfalfa hay available free choice.

Calves fed whole milk gained more weight than the ones on the replacers. Some of the calves were slaughtered for veal, and all the meat had a satisfactory color, Dr. Jacobson said.

New Board Chairman

INDIANAPOLIS—Robert K. Eby has been elected chairman of the board of the Grain Dealers Mutual Insurance Co. at Indianapolis. He succeeds C. R. McCotter, who died recently.

Mr. Eby has served as a director and general counsel of the firm since 1933. Other changes in board membership and assignments were the election of R. D. MacDaniel as a director, and Harold B. Tharp as chairman of the finance committee. O. M. Earl was named honorary board chairman and continues as chairman of the executive committee. All are from Indianapolis.

Researcher Appointed To Hess & Clark Staff

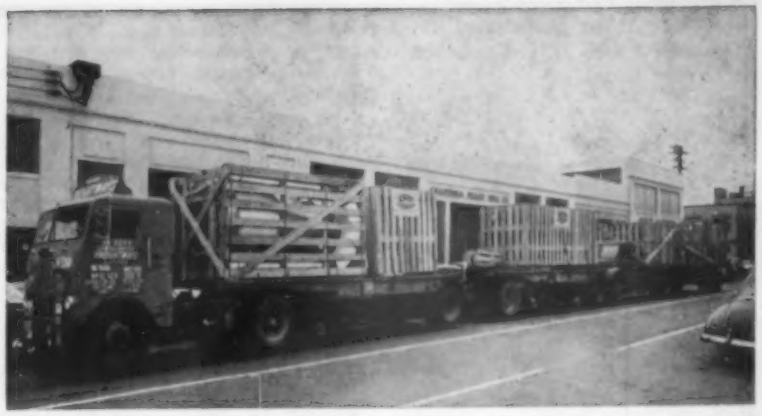
ASHLAND, OHIO — Dr. Kenneth W. Huffman has joined the research staff of Hess & Clark, Inc., Ashland, it has been announced by Dr. Paul D. Harwood, vice president and director of research. Dr. Huffman will serve as a research veterinarian at the firm's research center in Ashland.

Dr. K. Huffman

Dr. Huffman has been a researcher and instructor in veterinary anatomy at Kansas State University for the past two years. Previously he was a veterinary anatomy instructor at Oklahoma State University, and was in private practice.

He is a graduate of Oklahoma State University, where he received a D.V.M. degree, and Kansas State University, where he received an M.S. degree in pathology.

Dr. Harwood commented that Dr. Huffman's appointment is another step in the firm's expanding research program, and general company growth.



OVERSEAS SHIPMENT—A California pellet mill and other equipment is shown crated and ready for shipment to the Port-of-Spain, Trinidad, plant of Lipscomb Caribbean, Ltd. The equipment was shipped from San Francisco via the Panama Canal. It was the second pellet mill to be installed in the plant since last October.

Equipment Shipped To Trinidad Plant

SPRINGFIELD, MO. — Additional new machinery is now being installed in the Port-of-Spain, Trinidad, plant of Lipscomb Caribbean, Ltd., associated with Lipscomb Grain & Seed Co., Inc., Springfield.

The recent shipment included a California pellet mill, plus granule rollers, pellet cooler, Eureka bagging scale, 1.5 ton Blue Streak twin spiral mixer and Hi-Intensity magnet.

The discharge from the pellet mill is by air. According to Forest W. Lipscomb, Sr., president of Lipscomb Grain & Seed Co., the mill is a "deluxe" model in that it has some new design features never before used on California pellet mills. It is expected to produce an additional 7-8 tons of granules per hour. The new pellet mill is the second one to be installed in the plant since last October.

The machinery was shipped to Trinidad from San Francisco via the Panama Canal. A California Pellet Mill Co. representative went to Trinidad to complete the equipment installation.

President of Lipscomb Caribbean is Forest W. Lipscomb, Jr. He is assisted by Ed Harris as general manager. According to Forest W. Lipscomb, Sr., the firm will soon send an additional man to help operate the mill and provide poultry service work, with expectation that the younger Mr. Lipscomb will return to Springfield about April 1.

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Turn to PAXCO DEHYDRATED CORN COB MEAL, as many feed suppliers have. Superior molasses carrier. Cattle like it, get real feeding value from it. Reliable source; stabilized prices. Write today to:

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With the Burrows Universal Moisture Tester you get a direct moisture percentage reading on a dial, eliminating all chance for error. The Universal is precisely accurate and tests your grain in less than 60 seconds. 10 day free trial. Wire or phone collect today for complete information and prices.

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Insoluble, sharp and diamond-hard, HaVeN Granite Grit helps to grind out every particle of the nutrients in your feeds for better conversion, but does not upset the mineral balance. Get HaVeN Granite Grit at your local dealer's today, and be sure your poultry get all the nutrients you pay for.

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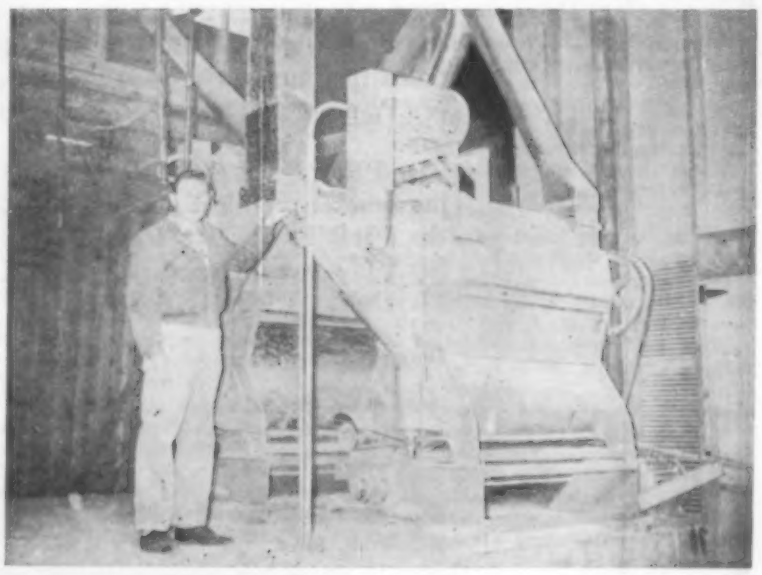

Frank Schnee of Advance Farm Service, Madison, South Dakota, demonstrates his two new Challenger Oat Hullers with flaking rolls at an open house April 14.

Our thirty-day guarantee of satisfaction permits you to demonstrate for yourself the profit potential of this huller and roll.

WRITE FOR COMPLETE INFORMATION

ROSKAMP HULLER MFG. CO.
CEDAR FALLS, IOWA
"Pioneers Progressing with the Years"

AN IMPORTANT ANNOUNCEMENT

LEADERSHIP

in the Feed Handling Industry

BEING FIRST has been a habit with Dodgen Industries for over twelve years. Dodgen has led the way in providing low cost equipment that has helped the Feed Industry "GO BULK." Today, Dodgen Industries is proud to introduce a new concept in Bulk Body Design. . . . DESIGN that will cut your costs and perform without equal. For the first time Dodgen announces a "DO IT YOURSELF" "T" Model priced at $1275! The "T" Model incorporates the same outstanding features that has made Dodgen a leader in Bulk Feed Handling Equipment.

Frankly, Dodgen LEADERSHIP recognizes industry problems when it comes to changeover and today over 50% of the Feed Dealers are still in a changeover position. Converting to Bulk can be a real problem to Hatcherymen where Feed represents only a segment of their business; Outlying Farm and Feed Stores who are not in a concentrated feeding area; Dealers plagued with diversified feeding that makes ALL BULK DELIVERY impractical, and Dealers who just do not have the capital or credit available to buy expensive bulk equipment to convert. To you who are in this position, Dodgen Industries now offers a revolutionary "DO IT YOURSELF" BAG AND BULK BODY. The Dodgen "T" Model is so simple that it can be installed right at your store, so practical and basic that it can be used for all types of hauling or unloading and so low in initial cost and upkeep that every Feed Man should have at least one!

This unit will be on display at the International Baby Chick Convention in St. Louis, July 21-23, together with the Dodgen Portable Mix-O-Vator and the Dodgen All-Purpose Bulk Body. We invite you to visit us for detailed literature and complete information concerning this outstanding NEW program Dodgen is offering the Industry.

The PRICE IS ONLY $1275 for a 6-ton unit complete with all mounting brackets and instructions. BEFORE YOU BUY . . . COMPARE the PRICE . . . the FEATURES . . . and get the FACTS. . . . You have my word that here is real DODGEN QUALITY WITH A MODEL "T" PRICE TAG!

Sincerely,

John Dodgen
President

DODGEN INDUSTRIES
Humboldt, Iowa

Expands Soybean Plant

DAWSON, MINN.—Tri-County Co-op Soybean Assn. of Dawson is expanding and modernizing its solvent extraction soybean processing facilities.

The new installation is said to have more than double Tri-County's present processing capacity, and will increase the co-op's operating efficiency considerably.

Davidson-Kennedy Associates Co., Chicago Heights, Ill., is supplying design, engineering, equipment and construction assistance. The new facilities are expected to be ready for operation on the new soybean crop.

CHICK OUTPUT

(Continued from page 1)

reported for June, with the total off 6% from a year earlier. The number of broiler-type chicks produced during the month was 166,250,000.

For January-June, the hatch of broiler-type chicks has shown a 5% increase.

A smaller July hatch is in prospect. The number of broiler-type eggs in incubators on July 1 was 7% less than a year earlier.

Egg-Type Chicks Hatched, June and January-June, with Comparisons

(000's omitted)

State and division	——June—— 1958	1959*	Jan. thru June 1958	1959*
Maine	355	331	3,040	3,363
N. H.	352	240	2,765	2,749
Vt.	50	24	440	389
Mass.	752	550	9,156	8,690
R. I.	52	16	264	326
Conn.	704	333	8,963	6,189
N. E.	2,265	1,494	24,988	21,706
N. Y.	1,330	550	12,754	10,200
N. J.	1,200	400	18,690	14,980
Pa.	2,557	1,972	26,479	26,809
M. A.	5,087	2,922	57,923	51,989
Ohio	2,780	1,600	26,480	23,550
Ind.	2,954	2,090	27,156	24,913
Ill.	2,216	961	32,033	25,938
Mich.	2,250	750	12,000	10,300
Wis.	922	450	13,632	11,400
E. N. C.	10,122	5,851	111,301	96,101
Minn.	1,455	850	43,265	37,555
Iowa	2,510	1,600	60,730	52,850
Mo.	3,906	1,295	26,047	20,909
N. Dak.	184	157	3,777	3,537
S. Dak.	551	255	14,262	13,964
Neb.	988	624	19,502	19,878
Kansas	684	280	13,030	11,400
W. N. C.	10,278	5,061	180,613	160,093
Del.	20	14	159	201
Md.	187	78	911	1,181
Va.	395	303	5,356	5,520
W. Va.	139	47	784	754
N. C.	291	288	6,102	6,641
S. C.	196	262	3,200	3,533
Ga.	714	722	6,738	12,407
Fla.	900	881	5,783	6,539
S. A.	2,762	2,595	29,033	36,776
Ky.	350	200	4,195	3,975
Tenn.	540	270	6,340	6,460
Ala.	311	499	3,411	4,681
Miss.	261	367	2,350	3,716
E. S. C.	1,462	1,336	16,296	18,832
Ark.	218	252	2,008	3,169
La.	148	203	1,433	1,931
Okla.	340	210	4,900	4,410
Texas	1,149	882	16,100	15,842
W. S. C.	1,855	1,547	24,441	25,352
Mont.	88	36	1,595	1,645
Idaho	142	90	2,020	1,796
Wyo. & N. Mex.†	8	5	244	137
Colo.	235	184	2,578	2,226
Ariz.	117	119	912	948
Utah	148	47	1,838	1,595
Mount.	738	481	9,187	8,347
Wash.	931	770	7,078	6,701
Oregon	414	273	4,118	3,402
Calif.	4,462	4,260	29,082	33,618
Pacific	5,807	5,303	40,278	43,721
U. S.	40,376	26,590	494,860	462,913

*Preliminary.

†Combined to avoid disclosing individual operations.

Program for 10th Wisconsin Nutrition School Announced

MADISON, WIS.—The 10th Nutrition School for Feed Men at the University of Wisconsin has been scheduled for Aug. 11-12. The event is sponsored by the Central Retail Feed Assn. and the university.

Eldon H. Roesler, executive secretary of the association, pointed out that for the first time the school will be held on a Tuesday and Wednesday, in response to many requests from those attending in the past.

Mr. Roesler noted that a new feature this year will be four informal round table discussion sessions covering dairy cattle, beef and sheep, swine and poultry.

First-day speakers and their topics will include: "Crops, Feed and Livestock," by Dr. W. H. Ebling, agricultural economist at the University of Wisconsin; "Merchandising Nutrition Research," by Dr. E. I. Robertson, director of nutrition for John W. Eshelman & Sons; "Effects of Different Levels of Nutrition on Dairy Cattle," by Dr. J. K. Loosli, Cornell University; "Energy Levels for Growing Pullets and Laying Hens," by Dr. M. L. Sunde, University of Wisconsin; "Coccidiosis in Chickens and the Role of Coccidiostats," by David F. Green, Merck & Co., Inc.; "Relationship of Feeding to Ketosis in Dairy Cattle," by Dr. L. H. Schultz, University of Wisconsin; "Pelleted Feeds for Meat Animals," by Dr. A. L. Pope, University of Wisconsin, and "Pelleted Feeds for Dairy Cattle," by Dr. R. P. Niedermeier, University of Wisconsin.

Dr. Burr W. Nussdorfer, president of the Wisconsin Veterinary Medical Assn., will also appear on the program. H. T. Scott, Wisconsin Alumni Research Foundation, will conduct a question-answer session.

Addresses scheduled for the second day include: "Vitamin Problems of Ruminants, Swine and Poultry," by Dr. J. W. Crowley, Dr. R. H. Grummer, and Dr. H. R. Bird, University of Wisconsin; "The Uses of Feed Additives in Beef Cattle Feeding," by Dr. E. R. Hauser, University of Wisconsin; "Veterinarian and Feed Man Relations," by R. E. Nichols, University of Wisconsin; "Early Days of the University of Wisconsin Poultry Department," by J. G. Halpin, Murphy Products Co.; "Methods of Summer Feeding Dairy Cattle," by Dr. Howard J. Larsen, University of Wisconsin; and "Swine Nutrition and Management," by Dr. O. Burr Ross, head of the department of animal science at the University of Illinois.

The school will be held at the Memorial Union on the university campus, except for the round table discussions, which will be held at the Wisconsin Center Building the afternoon of Aug. 12. Discussion leaders, all from the University of Wisconsin, will be Dr. Crowley, dairy cattle; Prof. F. J. Giesler, beef and sheep; Dr. H. L. Self, swine, and Dr. H. R. Bird, poultry.

Mr. Roesler pointed out that all feed men are invited to the school, and urged feed men to invite their veterinarians since the program includes discussions of interest to them. There will be a banquet and program starting at 6 p.m. Aug. 11.

Poultry Science Assn. To Convene Aug. 4-7

AMES, IOWA—Nearly 1,000 Poultry Science Assn. members from the U.S. and foreign countries have registered so far for the association's annual meeting to be held Aug. 4-7 at Iowa State University, Dr. R. E. Phillips, head of the department, has announced.

Representatives from 40 educational and 16 commercial organizations will present more than 225 research papers during the four-day meeting. Twelve research projects will be discussed by members of the Iowa State University poultry department staff.

The technical sessions, open only to association members and their guests, will be divided into seven main groups: Genetics, marketing, nutrition, pathology, physiology and environment, extension and instruction, and "general." All groups will meet in the university's Memorial Union.

No presentations have been scheduled for the afternoon of Aug. 5, when tours to various points of interest in Iowa will be made, Dr. Phillips said, including the Hy-Line Poultry farms at Johnston and the Dr. Salsbury's Laboratories at Charles City. Special activities have been planned for members' families, and each tour group will be treated to a chicken barbecue.

West Virginia Firm Names Service Man

NEW YORK—John Floyd has been appointed technical service representative for West Virginia Pulp & Paper's multiwall bag division, according to Sheldon Y. Carnes, regional manager.

Mr. Floyd will work out of the division's Wellsburg, W. Va., plant, reporting to A. L. Staffileno, plant manager. Mr. Floyd joined West Virginia in 1954 as technical assistant at the company's Charleston, S. C., mill.

After going back to school and receiving a B.S. degree in chemical engineering from the University of South Carolina, he rejoined the company at Charleston in 1957 as packaging engineer in the multiwall packaging laboratory. Mr. Floyd will now be working with West Virginia customers to improve their packaging operations.

CATTLE ON FEED

(Continued from page 1)

of 7%. In most north central states for which cattle on feed estimates are available for both years, the number on feed increased over a year earlier. The increases ranged from 3% in Ohio, Indiana and Kansas to 14% in Nebraska. The exception was Illinois which showed a 2% decline. Shipments of stocker and feeder cattle into nine Corn Belt states for the period April through June were up a third from a year earlier.

Four Western States Show 21% Increase: For the four important western states for which comparable data are available (Texas, Colorado, Arizona and California) cattle on feed numbers July 1, 1959, at 1,240,000 head were up 21% from the 1,029,000 head July 1, 1958. These same states had 983,000 head on feed April 1, 1959. Practically all of this increase occurred in California, where numbers usually increase from April to July. July 1 numbers in this state were up 18% from a year earlier and a record high. In Colorado, numbers were up 9% from July 1, 1958.

Marketings and Placements Up for Second Quarter: Marketings of fed cattle during the second quarter of 1959 were 9% larger than a year earlier in the 13 states for which quarterly estimates are available for both years. Total sales of good, choice and prime beef steers sold out of first hand for slaughter at seven markets for April through June were 10% above the same period a year earlier. This increase was partially offset by a decline in fed heifer slaughter.

The number of cattle placed on feed during the April-June period of 1959 in 13 states was 13% above a year earlier. Placements in the nine north central states were up 14%, and the combined total placements for Texas, Colorado, Arizona and California showed an 11% increase.

For the 21 states, 2,902,000 fed cattle and calves were marketed and 2,139,000 head of cattle and calves were placed on feed during the April-June period of 1959.

Cattle and Calves on Feed in Selected States by Quarters, July 1, 1958, April 1 and July 1, 1959, with Comparisons*

State	July 1, 1958	April 1, 1959	July 1, 1959	July 1, 1959 as % of July 1, 1958
	——1,000 head——			%
Ohio	115	172	118	103
Indiana	180	228	185	103
Illinois	491	628	481	98
Minnesota	297	402	336	113
Iowa	1,189	1,446	1,260	106
Missouri	189	275	204	108
So. Dak.	181	250	203	112
Nebraska	457	688	520	114
Kansas	153	209	157	103
9 N.C. states	3,252	4,298	3,464	107
Texas	107	150	143	134
Colorado	234	276	256	109
Arizona	139	187	193	139
California	549	370	648	118
13 states	4,281	5,281	4,704	110
Pennsylvania	**	69	50	**
Michigan	**	108	80	**
Wisconsin	**	99	66	**
No. Dak.	**	91	68	**
Oklahoma	24	43	29	121
Montana	**	40	26	**
Idaho	**	116	74	**
Utah	**	44	31	**
21 states	**	5,891	5,128	**

*Estimates include only cattle being fattened for market as a more or less distinct agricultural enterprise, and exclude small operations incidental to dairy and general farming. Cattle thus fed are presumed to produce carcasses that will grade good or better.

**Not available.

Weight of Cattle on Feed: A breakdown of July 1 numbers by weight groups in 13 states indicates a 3% decrease from a year earlier in the number of cattle weighing over 900 lb. The 1,573,000 head weighing over 900 lb. were 49,000 head less than the number in this group on July 1, 1958. The number weighing under 900 lb. totaled 3,131,000 head—up 472,000 head or 18% from a year earlier.

Time on Feed: Cattle on feed less than three months for the 13 states for which comparable data are available were 18% above July 1, 1958, whereas the number on feed 3-6 months was up 7% and the number over 6 months was up 4%. The number on feed less than 3 months on July 1 made up 40% of the total compared with 38% a year earlier. The number on feed 3-6 months accounted for 33% of the total compared with 34% last year. Those on feed more than 6 months comprised 27% of the total this July 1 and 28% a year earlier. In 21 states the number on feed less than 3 months July 1 was 40% of the total; 3-6 months, 32%, and over 6 months, 28%.

Kinds on Feed: In the 21 states now in the quarterly reporting program, steers and steer calves comprised 71% of the cattle and calves on feed July 1, 1959. Heifers and heifer calves made up 28% of the total, while cows and other cattle made up 1%.

Marketing Intentions: In 13 states for which comparable data are available, cattle feeders reported that out of the cattle and calves on feed July 1, they expect to market 3,165,000 in July, August and September. If intentions are carried out, marketings for this quarter would be 25% above the 2,533,000 head marketed from the July 1 inventory during the same 3-month period last year. Present plans are to market 1,539,000 head of those now on feed after Sept. 30, 1959—12% less than the number marketed after Sept. 30 last year from those on hand July 1. Cattle feeders in 21 states expect to market 3,480,000 head—68% of the July 1 inventory during July, August and September. Of the July 1 total number on feed, 19% are intended for market in July, 25% in August, and 24% in September.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand fair; supply adequate; 600 D, 1,500 A 17½¢ lb.; 300 D, 2,250 A 18¢; 300 D, 3,000 A 19½¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14¾¢; 400 D, 3,000 A 20¢; 75 D, 750 A 14½¢.

Denver: Demand fair; trend steady; supply ample; 2,250 A, 300 D 22¢ lb., f.o.b. Denver.

New York: Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢; 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Minneapolis: Demand good; trend steady; supply ample; 10,000 A 37¢ lb.; 300 D, 2,250 A 20½¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 750 A 16½¢ lb.

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

ALFALFA MEAL

Philadelphia: Demand and supply fair; trend unsettled; 17% $58.50.

Boston: Demand quiet; supply plentiful; dehydrated, 17% $56@57; suncured, 13% $47, nominal.

New Orleans: Demand steady; trend firm; supply adequate; vitamin A, 17% $55@56; pellets $51@52.

Memphis: Demand fair; trend higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $52.80.

St. Louis: Dehydrated, 17%, 100,000 A $50, demand good, trend steady, supply ample; 13% fine suncured $41, demand slow, trend steady, supply ample.

Omaha: Demand good; trend strong; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $40; sacked meal $45, both Omaha basis.

Cincinnati: Demand poor; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $55.50@58.50.

Portland: Demand good; supply ample; trend unchanged; suncured, 15% $40; dehydrated $63.40.

Ft. Worth: Demand good; offerings somewhat limited on good quality; Texas production, 17%, 100,000 A $51 truck; suncured 13%, ¼-in. grind No. 1 $41 truck.

Los Angeles: Demand steady; trend firm; supply adequate; dehydrated meal, 17% protein, 100,000 A $50, bulk; dehydrated pellet meal, 17% protein, 100,000 A $52@53, bulk; suncured meal, 15% protein $42@43, bulk; suncured crumbles, 15% protein $44@45, bulk.

Buffalo: Demand poor; trend steady; supply adequate; $60, sacked, Boston.

Chicago: Demand better; trend higher; supply light; carlots, 17% dehydrated, with 100,000 units vitamin A guaranteed $51.50.

Denver: Demand good; trend strong; supply ample; dehydrated, sacked $47, Denver.

Kansas City: Demand very good; prices have seen low side; supply, production and quality good; regular meal $44@45, sacked; reground pellets $45, sacked; reground pellets, greased $45@47; pellets $40, bulk; 18% protein, 125,000 units A meal $47@48; 20% protein, 150,000 A reground greased meal in sacks $52@55; No. 1 fine ground $37@40, No. 1 ¼-in. $35@38, No. 2 ¼-in. $32@35.

Minneapolis: Trend steady; 17% dehydrated, 100,000 units vitamin A, reground pellets $44@48, bulk; oiled reground $46@50, bulk.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $45, delivered, truck loads; 136,000 A unit dehydrated $68, delivered, truck loads.

ANIMAL FATS (STABILIZED)

St. Paul: Demand good; trend steady; supply ample; bleachable fancy tallow 6½¢ lb., f.o.b. producer's plant.

Boston: Demand and supply steady; tallow 7¼¢ lb.; yellow grease 6¾¢ lb.

New Orleans: Demand fair; trend steady; supply adequate; 6¾@7¢ lb., tank cars.

Ft. Worth: Demand fair; supply ample; prime tallow, tank cars 6¾¢ lb.; drums 8¼¢ lb., f.o.b. north Texas packing plants with returnable drums.

San Francisco: Demand fair; supply ample; bleachable fancy 7¼¢ lb.; yellow grease 6¼¢ lb.

Louisville: Demand dull; trend steady; supply good; soap and export demand dull; bleachable white 6¾¢ lb.; white tallow 7¼¢ lb.; yellow grease 5¾¢ lb.

Kansas City: Demand slow; trend steady; supply ample; 6¾@6½¢ lb.

Chicago: Demand and supply fair; trend steady; bleachable fancy tallow, tank, truck or carlots 6¾¢ lb.; yellow grease 6¾¢ lb.

BARLEY FEED

San Francisco: Demand fair; supply ample; rolled $58.50; ground $57.50.

Philadelphia: Demand slow; supply fair; $47.50, pulverized.

Boston: Demand slow; supply good; $46.

New Orleans: Demand slow; supply ample; trend unchanged; $59@60.

Portland: Demand slow; supply ample; trend lower; rolled $57, ground $55.

Ogden: Supply normal; rolled $52@57; whole barley $44@49.

Los Angeles: Demand slow; trend easier; supply ample; standard rolled $2.93 cwt., sacked; standard ground $2.93 cwt., sacked.

Seattle: Demand fair; trend easy; supply good; $44, bulk, truck loads (new crop).

Baltimore: Demand quiet; trend steady; supply ample; $46.50, carlots.

Chicago: Demand fair; trend unchanged; supply ample; $36, carlots.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

Denver: Demand fair; trend good; supply ample; $23.

Chicago: Demand steady; trend firm; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25 net.

BLOOD FLOUR

Louisville: Demand slow; trend steady; supply good; $80@85.

BLOOD MEAL

New Orleans: Demand slow; trend unchanged; supply normal; $90@95.

San Francisco: Demand fair; supply ample; $6 a unit of ammonia.

Ogden: Supply normal; $100, in 100-lb. bags, f.o.b. Ogden.

Portland: Demand slow; trend lower; supply ample; $115.

Los Angeles: Demand slow; trend weaker; supply ample; $5.75 a unit of ammonia.

Louisville: Demand slow; trend steady; supply good; $80@85.

Chicago: Demand fair; trend steady; supply adequate; carlots, in 100-lb. bags $130.

BONE MEAL (STEAMED)

Boston: Demand and supply steady; $90.

New Orleans: Demand fair; trend firm; supply light; $100@103.

San Francisco: Demand good; supply ample; $75.

Portland: Demand slow; supply ample; trend unchanged; $102.

Cincinnati: Demand fair; trend steady; supply ample; $100, Cincinnati.

Ft. Worth: Demand good; supply moderate; $90, sacked, f.o.b. Ft. Worth, local manufacture.

Los Angeles: Demand fair; trend unchanged; supply adequate; imported $78 in 20-ton lots.

Louisville: Demand dull; trend steady; supply light; $80@85.

Denver: Demand good; trend firm; supply ample; $103.20, Denver.

Buffalo: Demand and supply light; trend steady to easy; $105, sacked.

Chicago: Demand and supply good; trend steady; carlots, in 100-lb. bags $100.

Seattle: Demand good; trend firm; supply limited; $89, delivered, truck lots.

BREWERS DRIED GRAINS

San Francisco: Demand fair; supply ample; $54.

Cincinnati: Demand fair; trend steady; supply adequate; $52.

Philadelphia: Demand fair; trend unsettled; supply fair; $51.

Boston: Demand steady; supply fair; 26% $50@51; 22% $50.

St. Louis: Demand fair; trend steady; supply ample; $41.

Ft. Worth: Demand fair; supply sufficient; 26% protein $49@50, July, delivered Ft. Worth.

New Orleans: Demand fair; trend easy; supply ample; $50@51.50.

Los Angeles: Demand slow; trend unchanged; supply adequate; $49.50 bulk, $53.50 sacked.

Louisville: Demand fair; trend steady; supply normal; $45.

Buffalo: Demand fair; trend steady to lower; supply good; $39.50, Boston.

Chicago: Demand quiet; trend steady; supply adequate; 26% protein, carlots $45.50.

BREWERS DRIED YEAST

San Francisco: Demand fair; supply good; 10¢ lb.

Boston: Demand and supply steady; 11¢ lb.

Omaha: 10½¢ lb.

Portland: Demand good; supply ample; trend unchanged; 8½¢ lb.

Los Angeles: Demand slow; trend unchanged; supply adequate; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

Louisville: Demand fair; trend firm; supply good; 10@10½¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $9.25 cwt.

Denver: Demand light; trend steady; supply ample; 9¢ lb., f.o.b. Golden, Colo.

St. Louis: Demand good; trend steady; supply ample; carlots $9.50@10 cwt.; ton lots $10.50 cwt.; less than ton lots $11.50 cwt.

Milwaukee: Demand fair; trend steady; supply adequate; carlots $10@11 cwt.; l.c.l. $10.50@12.25 cwt.

Chicago: Demand fair; trend steady; supply ample; carlots $9.50@10.50 cwt.; l.c.l. $9.75@12.25 cwt.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

BUTTERMILK-CONDENSED

San Francisco: Demand fair; supply good; $5 cwt.

Ogden: Supply average; $4.40, 100-lb. drum.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Boston: Demand slow; supply tight; 3¾¢ lb., nominal.

New Orleans: Demand slow; trend unchanged; supply average; $4.25@4.30 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; 5½¢ lb. in 100-lb. lots; 4½¢ lb. in 500-lb. lots.

Louisville: Demand very dull; trend steady; supply nil; $4.25 cwt., nominal.

Chicago: Demand and supply fair; trend steady; carlots $3.25@3.50 cwt.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.53, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Los Angeles: Demand slow; trend unchanged; supply adequate; flour $10.15, sacked, 20-ton cars; meal $11.15, sacked, 20-ton cars.

Chicago: Demand steady; trend firm; supply adequate; fine grind, plain, 100-lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CHARCOAL

Boston: Demand and supply steady; $100.

San Francsico: Demand steady; supply ample; $141.

Los Angeles: Demand slow; trend unchanged; supply adequate; $156 sacked in less than ton lots; $144.40 sacked in ton lots.

Chicago: Demand quiet; trend steady; supply ample; carlots, in 50-lb. multiwalls $110.

COCONUT OIL MEAL

San Francisco: Demand good; supply tight; $69.

Portland: Demand slow; supply ample; trend unchanged; $68.

Los Angeles: Demand slow; trend unchanged; supply adequate; copra cake $81@82, bulk.

Seattle: Demand fair; trend firm; supply ample; $78, delivered via truck (California).

COD LIVER OIL (FORTIFIED)

Boston: Demand fair; supply adequate; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢; 300 D, 2,250 A 18½¢; 600 D, 1,500 A 18¢; 300 D, 1,500 A 17¢.

New York: Demand and supply good; trend firm; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 18½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,600 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Boston: Demand good; supply adequate; 4¾@5¢ lb.

New Orleans: Demand light; supply normal; trend steady; $75@80, f.o.b. Gulf.

Los Angeles: Demand slow; trend unchanged; supply adequate; 4½¢ lb.

Denver: Demand fair; trend steady; supply ample; $182.40, Denver.

New York: Demand fair; trend steady; supply tight; 3⅞@4¢ lb., f.o.b. eastern shore.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $44.90, meal $67.90.
Atlanta: Feed $50.98, meal $73.98.
Birmingham: Feed $49.64, meal $72.64.
Boston: Feed $49.84, meal $72.84.
Chicago: Feed $38, meal $61.
Cleveland: Feed $46.14, meal $69.14.
Denver: Feed $48.51, meal $71.51.
Ft. Worth: Feed $46.96, meal $69.96.
Indianapolis: Feed $43.36, meal $66.36.
Kansas City: Feed $38, meal $61.
Louisville: Feed $45.21, meal $68.21.
New Orleans: Feed $48.20, meal $71.20.
New York: Feed $49.43, meal $72.43.
Norfolk: Feed $48.71, meal $71.71.
Philadelphia: Feed $49.02, meal $72.02.
Pittsburgh: Feed $46.96, meal $69.96.
St. Louis: Feed $38, meal $61.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $44.

Louisville: Demand slow; trend steady; supply light; $47.45.

COTTONSEED OIL MEAL

Philadelphia: Demand slow; supply fair; $79.

Boston: Demand slow; supply light; $80.

San Francisco: Demand good; supply tight; 41% $76; 44% $78.50.

Cincinnati: Demand poor; trend steady; supply adequate; $71.60.

New Orleans: Demand fair; trend steady; supply limited; $79@80.

Los Angeles: Demand moderate; trend unchanged; very little available; $73, bulk.

Memphis: Demand slow; trend steady; supply scarce; prime 41% protein, old process $66 nominal, sacked; new process, 41% solvent $64.50 nominal, sacked.

St. Louis: Demand slow; trend higher; supply limited; solvent $71.

Ft. Worth: Demand poor; supply sufficient; 41% old process $69, solvent 1% fat added $66.50; pellets $2 additional; cottonseed hulls $21.

Portland: Demand slow; supply ample; trend unchanged; $79.

Ogden: Supply average; 41% $80@85.

Omaha: Demand poor; trend steady; supply ample; 41% solvent $69.10, bulk, delivered Omaha.

Wichita: Demand fair; supply sufficient; 41% old process $74.50.

Seattle: Demand fair; trend firm; supply ample; $86, delivered, truck lots, 41% expeller process.

Louisville: Demand slow; trend stronger; supply fair; old process $71.50, up 50¢; new process $70.50, up 50¢.

Buffalo: Demand poor; trend steady to higher; supply fair; $82, sacked, Boston.

Kansas City: Demand fair; trend strong; supply limited; old process $66, sacked, Memphis; solvent $65.50@66.

Denver: Demand fair; trend steady; supply ample; sacked basis 2% fat $70.60, Denver.

Chicago: Demand fair; trend higher; supply ample; carlots, hydraulic $65.50; solvent $65, Memphis basis.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

New York: Demand and supply good; trend firm; price per lb. in 50- and 100-lb. bags, or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Kansas City: Demand fair; trend steady; supply adequate; 1,500 ICU 9¾@10¢ lb.; 3,000 ICU 11½¢ lb.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand good; supply fair; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; carlots $63.50, truck load $64.25, net ton, f.o.b. Coronet in 100-lb. multiwall bags $60.50 and $61.25 in bulk.

Cincinnati: 18% phosphorus $81, 13% phosphorus $64.98, f.o.b. Cincinnati.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50, net ton, f.o.b. Houston, 100-lb. multiwall paper bags, $68.50 in bulk.

DICALCIUM PHOSPHATE

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Denver: Demand fair; trend steady; supply ample; $93.60, delivered in Denver.

Portland: Demand slow; supply ample; trend unchanged; $115.

Cincinnati: 18½% phosphorus $92@93.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine 0.003% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21% maximum fluorine 0.003% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

DISTILLERS DRIED GRAINS

Philadelphia: Demand slow; trend unsettled; supply fair; $61.50.

Boston: Demand and supply steady; medium $56.

Cincinnati: Demand fair; trend steady; supply adequate; $52.50.

San Francisco: Demand fair; supply ample; solubles $85.

Seattle: Demand good; trend steady; supply limited; $67.50, delivered, truck lots.

Louisville: Demand slow; trend steady; supply light; nearly all Kentucky distillers

down for July and August; bourbon grains: light $50, dark $52, solubles $77.

Buffalo: Demand and supply fair; trend steady; $56, bulk, Boston.

DRIED BEET PULP

San Francisco: Demand good; supply fair; $51.80, bulk.

Ft. Worth: Demand slow; offerings light; carlots, 50-lb. papers $63, July, delivered Ft. Worth.

Ogden: Supply normal; $44@48.

Boston: Demand very slow; supply ample; $59@59.50.

New Orleans: Demand fair; trend steady; supply limited; $62@63.

Portland: Demand good; supply scarce; trend unchanged; $59.

Los Angeles: Demand steady; supply ample; trend unchanged; $47.80@50.

Seattle: Demand good; trend firm; supply limited; $52, delivered, carlots.

Denver: Demand good; trend steady; supply ample; $49.23, delivered in Denver.

Buffalo: Demand fair; trend stead, supply adequate; $60, sacked, Boston.

DRIED BUTTERMILK

New Orleans: Demand fair; trend easy; supply normal; $11.50@12 cwt.

Ogden: Supply average; $8.50, 100-lb. bag.

San Francisco: Demand fair; supply ample; 11½¢ lb.

Los Angeles: Demand slow; trend unchanged; supply adequate; 11¾¢ lb.

Buffalo: Demand good; trend steady; supply limited; $11.85 cwt.

Louisville: Demand slow; trend steady; supply fair; 11½@12¢ lb.

Chicago: Demand and supply fair; trend steady; carlots, medium acid $10.75@11 cwt.; sweet cream $11@11.25 cwt.

DRIED CITRUS PULP

San Francisco: Demand and supply fair; meal $54.

Boston: Demand fair; supply adequate; $37, f.o.b. Florida points.

New Orleans: Demand fair; trend strong; supply good; $40@45, f.o.b. Florida points.

Los Angeles: Demand and trend steady; supply moderate; orange pulp $43, bulk; lemon pulp $42, bulk.

Buffalo: Demand fair; trend steady to lower; supply adequate; $37.50, sacked, f.o.b. Florida points.

DRIED SKIM MILK

Cincinnati: Demand fair; trend steady; supply adequate; 10½¢ lb.

San Francisco: Demand and supply fair; 13½¢ lb.

Ogden: Supply average; $15.15, 100-lb. drum.

Philadelphia: Demand slow; supply light; $12.50 cwt.

New Orleans: Demand fair; trend unchanged; supply ample; $11.50@12 cwt.

Boston: Demand and supply good; 12¢ lb.

Portland: Demand slow; supply ample; trend unchanged; 13¢ lb.

Los Angeles: Demand slow; trend unchanged; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.

Buffalo: Demand good; trend steady; supply ample; spray $10.65 cwt.

Louisville: Demand slow; trend steady; supply ample; 11½@12¢ lb.

Minneapolis: Demand good; supply fair; trend steady; 10.9@11¢ lb.

Chicago: Demand and supply fair; trend steady; carlots $10.40@10.65 cwt.

DRIED WHEY

San Francisco: Demand steady; supply good; $5.75 cwt.

Ogden: Supply normal; $6.90, 100-lb. bag.

Cincinnati: Demand fair; trend steady; supply adequate; $6.15 cwt.

Portland: Demand slow; supply ample; trend unchanged; $7 cwt.

Boston: Demand and supply steady; 5½¢ lb., f.o.b. shipping points.

Philadelphia: Demand slow; supply light; $6.50 cwt.

New Orleans: Demand good; supply ample; trend steady; $6@6.50 cwt.

Ft. Worth: Demand fair; supply adequate; carlots, standard $4 sacked, delivered Ft. Worth; $6.25 ton lots, f.o.b. warehouse, Ft. Worth.

Los Angeles: Demand slow; trend unchanged; supply adequate; $6.10 cwt. in carloads; $6.35 cwt. in l.c.l.

Denver: Demand fair; trend steady; supply ample; $6.50 cwt.

Louisville: Demand slow; trend steady; supply fair; 6@6½¢ lb.

Kansas City: Demand fair; trend steady; supply adequate; regular and partially delactosed $5.50 cwt., producers' plants.

Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.

Chicago: Demand fair; trend steady; supply ample; carlots $5.50 cwt.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand good; supply limited; 85% to 87% protein $98, f.o.b. trucks, north Texas plants.

Boston: Demand fair; supply very tight; $85, nominal.

Los Angeles: Demand fair; trend unchanged; supply adequate; $1 a unit of protein.

FISH MEAL

San Francisco: Demand slow; supply ample; $2.07½ a unit of protein.

Portland: Demand slow; trend lower; supply ample; $2.10, f.o.b. Vancouver.

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $176@178.

Boston: Demand fair; supply good; $130, f.o.b. Gloucester.

New Orleans: Demand fair; trend steady; supply normal; menhaden, 60% $128@130; scrap $124@126, f.o.b. Gulf.

Ft. Worth: Demand fair; supply sufficient; 60% menhaden $130, f.o.b. Gulf ports.

Cincinnati: Demand fair; trend steady; supply adequate; $160.

Los Angeles: Demand slow; trend weaker; supply adequate; local production, 60% protein $2.20 a unit, bulk.

Minneapolis: Demand and supply fair; trend steady; Gulf menhaden $148, delivered; 60% blended $180; 70% herring $2 a unit, West Coast.

Seattle: Demand fair; trend steady; supply good; $2.15 a unit protein, ex-dock (new crop Alaska).

Denver: Demand fair; trend steady; supply ample; $2.20 a unit of protein, f.o.b. West Coast.

Buffalo: Demand fair; trend steady; supply good; 60% protein menhaden $140 bulk, $145 sacked.

Louisville: Demand dull; trend steady; supply light; $160, nominal.

Chicago: Demand irregular; trend nervous; supply more limited; carlots, eastern menhaden $129@130; Gulf menhaden $128@130; scrap, eastern menhaden $125 @126; scrap, Gulf menhaden $124@126; eastern whitefish meal $133; herring meal $2.10 a unit of protein up to 73%; northeastern redfish $130@133.

HAY

Philadelphia: Demand slow; supply light; $25@26.

Boston: Demand seasonal; supply spotty; No. 2 timothy $40@42.

Ogden: Supply average; $1@1.25 bale; $20 ton in the field.

Los Angeles: Fair receipts for better demand; U.S. No. 1 $31@33; U.S. No. 2 leafy $29@30; U.S. No. 3 green $29@30; U.S. No. 2 $26@27.

Cincinnati: Demand poor; trend steady; supply adequate; by truck—No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.

Portland: Demand good; supply ample; trend unchanged; $32.

Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@36; No. 2 prairie $26@28; No. 2 Johnson grass $24@26, delivered Texas common points.

Wichita: Demand good for prairie, fair for alfalfa; supply short for prairie, sufficient for alfalfa; prairie $19, alfalfa $15 @18.

Seattle: Demand good; trend firm; supply fair; alfalfa, U.S. No. 2 green (new crop) $32, delivered, truck lots.

Denver: Demand fair; trend good; supply ample; alfalfa, baled $25 on new hay, first cutting; $23@24 on new hay, second cutting.

Louisville: Demand very dull; trend weak; supply good; No. 1 local hay, any variety $23@25, No. 2 about $2 less; straw $18 @20; new hay and straw now being baled; lower prices anticipated; new hay of better quality than in 1958 due to very dry weather.

HOMINY FEED

Memphis: Demand poor; trend steady; supply ample; white $46; yellow $46.

Boston: Demand and supply steady; $48.50 in bulk.

New Orleans: Demand slow; supply adequate; trend steady; $52@52.50.

St. Louis: Demand slow; trend steady; supply good; yellow $46.

Cincinnati: Demand good; trend steady to higher; supply adequate; $46.

Louisville: Demand dull; trend stronger; supply normal; $50.50, asked.

Seattle: Demand fair; trend firm; supply good; $57, delivered, sacked, carlots.

Kansas City: Demand steady; supply limited; trend steady; yellow $40@40.50, bulk; $1 additional cost for sacking; white 50¢@ $1 less than yellow.

Buffalo: Demand and supply fair; trend steady; $48, bulk, Boston.

Chicago: Demand fair; trend easier; supply adequate; carlots $43.50.

LINSEED OIL MEAL

Cincinnati: Demand poor; trend steady; supply adequate; new process $78.

Omaha: Demand fair; trend steady; supply tight; 34% solvent $67.80, bulk, Omaha basis; 32% old process not available.

San Francisco: Demand fair; supply ample; $75.

Los Angeles: Demand steady for limited offerings; trend steady; supply tight; local production, 29% protein $71, bulk, August, September.

Ft. Worth: Demand slow; supply sufficient; Texas production, 34% old process $81.50, rail or truck.

Portland: Demand slow; supply ample; trend unchanged; $87.

Boston: Demand slow; supply plentiful; $84.

Philadelphia: Demand and supply fair; trend unsettled; 34% $86.50.

New Orleans: Demand slow; supply ample; trend steady; $80@81.

Wichita: Demand good; supply sufficient; 34% $82.50.

Louisville: Demand slow; trend steady; supply light; old process $90.50; new process $81.

Kansas City: Demand and trend steady; supply limited; solvent $62, bulk, Minneapolis; no old process.

Seattle: Demand fair; trend firm; supply limited; $90, delivered, carloads, 34% protein (Montana).

Minneapolis: Demand good; supply ample; trend steady; solvent $62@62.50, bulk, Minneapolis, for balance of July.

Denver: Demand fair; trend steady; supply tight; $80.94, Denver.

Chicago: Demand fair; trend higher; supply ample; solvent, carlots $63, Minneapolis basis.

MALT SPROUTS

New Orleans: Demand fair; trend steady; supply ample; $40@42.

Boston: Demand and supply limited; $42.50.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $42.

Chicago: Demand quiet; trend easier; supply fair; No. 1 uneven bags, carlots $33.50; No. 1 even bags, carlots $36.50.

MEAT AND BONE MEAL

Boston: Demand steady; supply plentiful; scraps $1.30 a protein unit; converted 50% $82.50.

New Orleans: Demand easy; trend steady; supply ample; $90@93.

Cincinnati: Demand good; trend steady; supply ample; 50% meat and bone scraps $92, Cincinnati.

Los Angeles: Demand slow; trend unchanged; supply adequate; 50% protein $1.85 a unit, bulk.

Ogden: Supply average; $97.50 in 100-lb. bags.

Ft. Worth: Demand improved; supply sufficient; meat and bone, 50% $89.50, f.o.b. or delivered Ft. Worth.

Omaha: Demand good; trend strong; supply tight; $100.

St. Louis: Demand fair; trend steady; supply ample; $95.

Portland: Demand slow; trend lower; supply ample; $1.70.

San Francisco: Demand fair; supply ample; scraps $1.85 a unit of protein, bulk.

Wichita: Demand good; supply adequate; 50% $97.50, f.o.b. plant; 55%, no quotations, no offerings.

St. Paul: Demand fair; supply ample; down $1 to $96@100.

Seattle: Trend steady; supply ample; scraps, 50% protein $97.50, ex-warehouse.

Kansas City: Demand fair; trend steady; supply adequate; $90@95.

Denver: Demand good; trend steady; supply ample; 50% $90, bagged, truck lots; $87, bulk lots.

New York: Demand good; trend steady; supply tight; 50% $80, 55% $87.50 bulk; 50% $82.50, 55% $90 sacked.

Louisville: Demand slow; trend steady; supply good; scraps $35@90.

Buffalo: Demand and supply light; trend steady; 50% meat scraps $87.50 bulk, $92.50 sacked.

Chicago: Demand fair; trend steady; supply ample; scraps, in 100-lb. bags $95, carlots.

MILLFEED

Minneapolis: Peak demand leveling off; advances brought prices up to $37 for middlings, $33.50 for bran and $51 for red dog.

Kansas City: Demand fair; trend steady; supply ample; bran $30@30.75, shorts $36.25 @36.75, sacked; bran $26@26.75, shorts $32.50@33.25, middlings $30.50@31.25, bulk.

Wichita: Demand fair for bran, good for shorts; supply sufficient; basis Kansas City: bran $29.75@30.25, shorts $35.25@35.75; bran advanced $1.50, while shorts were unchanged to 50¢ lower, compared with the preceding week.

Ft. Worth: Demand good; offerings light; carlots, burlaps, bran $40, gray shorts $45; bulk middlings $39.50, delivered Texas common points; $4 higher on bran, $2 higher on shorts and $3 higher on middlings compared with previous week.

Chicago: Still led by red dog, millfeeds continued to show an upward trend during the week ending Wednesday, July 15. Net gains for the period on red dog figured about $2 on sacked and $2.50 on bulk. Late in the calendar week just preceding, there was quite a pickup in the call for standard midds, and some good sized purchases were put through which left supplies for more or less nearby shipment rather limited. With broad-scale flour sales in the immediate offing in both the hard winter and spring wheat belts, offerings of millfeeds should soon begin to show seasonal improvement. The so-called "wild-cat" strike on two railroads that serve Chicago (C. & E. I. and the Belt Line) has had some slight effect on sentiment in the feed line, but up to now, does not appear to have had any real

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impact. Quotations: Per ton, carlots: standard bran, sacked $37.50@38, bulk $32.50, nominal; standard midds., sacked $40@40.50, bulk $36.50@37; red dog, sacked $55 and bulk $50.50.

St. Louis: Bran $36@36.50, shorts $41.50@42, sacked; bran $31.50@32, shorts $37.50@38, middlings $36@36.50, bulk.

Cincinnati: Demand poor; trend higher; supply adequate; bran $40, middlings $46.

Omaha: Demand good; trend strong; supply tight; sacked bran $31; sacked gray shorts $36; bulk standard midds. $31.50, all Omaha basis.

Boston: Demand spotty; supply adequate; bran, domestic $45.50; Canadian $46; middlings, domestic and Canadian $51.

Buffalo: Sales of bran and middlings were light last week but shipping positions, because of the previous week's good turnover, were comfortable enough to hold and advance prices. Red dog's shipping positions are very light. The $4.50 sacked differential held steady. Sacked and bulk bran ended 50¢ to $1 higher; sacked and bulk middlings were up $1.50 and sacked and bulk red dog advanced $1.50 to $2.50. Quotations July 15: bulk bran $32@33, sacked $36.50@37.50; bulk middlings $38.50@39, sacked $43@43.50; bulk red dog $51.50@52.50, sacked $56@57.

New York: Demand fair; trend steady; supply good; bran $44.50@45; standard midds. $50.50@51.

Philadelphia: Demand spotty; supply fair; bran $45, standard midds. $48, red dog $67.

New Orleans: Demand fair; trend steady; supply normal; bran $41.50@42, shorts $46.50@47, sacked; bran $37@37.75, shorts $43.75@44.50, bulk.

Memphis: Demand fair; trend steady to higher; supply ample to light; wheat bran $38, sacked; gray shorts $43.80, sacked; standard midds. $38.70, bulk.

Louisville: Demand fair; trend stronger; supply ample; bran $41.60, up $2; mixed feed $44.85, up $1; shorts $48.60, unchanged; middlings $48.30, up $1.

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Ogden: Supply normal; to Utah and Idaho: red bran and mill run $39, middlings $44; to Denver: red bran and mill run $46, middlings $51; to California: red bran and mill run $46.50, middlings $51.50, f.o.b. San Francisco and Los Angeles.

Denver: Demand active; trend stronger; supply unlimited; shorts $39.25, bran $33.75, mill run $36.50.

San Francisco: Demand good; supply tight; millfeed $45.50, red bran $47.

Seattle: Demand fair; trend steady; supply ample; $40, delivered common transit points, carlots.

Portland: Demand slow; trend lower; supply ample; $36.

Los Angeles: Standard mill run $42.50@43, bulk, better demand, firmer trend, adequate supplies; red bran $44@45, bulk, slower demand, firmer trend, adequate supplies.

MINERAL FEED

Denver: Demand fair; trend steady; supply ample; $155.

Portland: Demand slow; supply ample; trend unchanged; $45.

Ft. Worth: Demand fair; supply sufficient; all-purpose granules $90, block $97; mineral phosphorus 6% granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Ogden: Supply normal; $113 in 50-lb. blocks; $103, granular, 50-lb. bags.

Wichita: Demand fair; supply ample; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $85, ex-warehouse.

MOLASSES

Boston: Demand steady; supply plentiful; 16½¢ gal. in tank cars.

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

Buffalo: Demand fair; trend steady; supply good; 16½¢ gal., f.o.b. Albany.

Denver: Demand fair; trend steady; supply ample; 11½¢ gal., New Orleans; $19.66 ton, New Orleans; $21.50 ton, f.o.b. West Coast.

Louisville: Demand slow; trend easy; supply light; 11½¢ gal., tank car lots, f.o.b. Gulf ports.

Kansas City: Demand slow; trend steady; supply ample; 11½@11¾¢ gal., tank car, New Orleans.

New Orleans: Demand good; supply ample; trend steady; 11¾¢ gal., tank cars and trucks; 600-lb. customers' drums $8.30.

Memphis: Demand poor; trend weak; supply ample; blackstrap 11½¢ gal., tank car, f.o.b. New Orleans, and $26.50 ton, delivered Memphis, truck.

St. Louis: Demand slow; trend steady; supply ample; 11½¢ gal., New Orleans.

Cincinnati: Demand fair; trend steady; supply adequate; 11¾¢ gal., New Orleans.

Ft. Worth: Demand fair; supply sufficient; blackstrap 12½¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $28.07 ton, seller's market price on date of shipment.

San Francisco: Demand and supply good; $21.50, f.o.b. cars, Richmond, Cal.

Los Angeles: Demand good; trend unchanged; supply adequate; $21.50, bulk, f.o.b. tank cars; $21.75, bulk, f.o.b. tank trucks.

Minneapolis: Demand poor to fair; supply adequate; down 50¢ to $33, tank trucks, delivered.

Seattle: Demand fair; trend easy; supply good; $21.50, f.o.b. Seattle, tank car lots or truck lots.

NIACIN

New York: Trend steady; $4 kilo, 10-kilo lots; $6.20 kilo, 5- and 2½-kilo lots; $6.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Louisville: Demand dull; trend steady; supply normal; reground $29.30; rolled $35.30; feeding $78.30; pulverized $52.50; crimped $70.30.

Chicago: Demand fair; trend higher; supply adequate; carlots, reground oat feed $21.50; fine ground feeding oatmeal $71@73; feeding rolled oats $78@80.

Boston: Demand and supply fair; white pulverized $57; reground oat feed $26.

Cincinnati: Demand poor; trend steady; supply adequate; reground oats $28; pulverized white oats $51; rolled oats $81.

Memphis: Demand poor; trend weaker; supply adequate; 3½% protein, reground oat feed $27.75.

Portland: Demand slow; supply ample; trend unchanged; rolled $66; ground $63; cleaned $65.

Ft. Worth: Demand slow; supply sufficient; 11% protein oat millfeed $40@41; reground $29.50@30, August.

Los Angeles: Demand fair; trend unchanged; supply adequate; pulverized, local production $61, sacked.

Seattle: Demand and supply fair; trend firm; $55, bulk, delivered, truck lots.

Minneapolis: Trend strong; reground oat feed $23; feeding rolled oats $83; feeding oatmeal $70; pulverized $47; crimped $62.

Philadelphia: Pulverized white, demand slow, supply fair $52.50; domestic oat feed, trend unsettled, supply light $32.50; Canadian oat feed, demand slow, supply light $34.50.

OYSTER SHELL

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

Boston: Demand slow; supply steady; $26.02 in paper.

New Orleans: Demand and supply good; trend steady; $24.50@25.

Portland: Demand good; supply ample; trend unchanged; western $34, eastern $39, granite grits $28, shell flour $24.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Los Angeles: Demand slow; trend unchanged; supply ample; $14.80, sacked.

Louisville: Demand and supply good; trend steady; in 80-lb. paper $23.45; in 50-lb. paper $23.70; in 25-lb. paper $25.95.

Seattle: Demand and trend steady; supply good; $36, delivered, carlots.

PEAT MOSS

Chicago: Demand fair; trend steady; supply ample; standard 7⅛ cu. ft. bales $3.80.

San Francisco: Demand and supply fair; $3.65 bale.

Portland: Demand slow; supply ample; trend unchanged; $3 bale.

Boston: Demand and supply steady; $3.15 bale in carlots.

Philadelphia: Demand and supply fair; $2.90, f.o.b. pier.

Los Angeles: Demand slow; trend unchanged; supply adequate; Canadian 6.1 cu. ft. bales $3.75.

Seattle: Demand and supply good; trend firm; $2.80 bale, delivered, truck lots.

POTASSIUM IODIDE, U.S.P.

Chittenango, N.Y.: Demand good; supply adequate; 90% KI stabilized with calcium stearate, 200 lb. in 100-lb. cartons $1.30; 100-lb. cartons $1.32; 25-lb. cartons $1.45; freight paid to destination.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.36; 100-lb. drums $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

POULTRY BY-PRODUCTS

Boston: Demand good; supply tight; $95.50, f.o.b. shipping points.

Ft. Worth: Demand good; supply limited; 55% protein $98, f.o.b. north Texas plants.

Los Angeles: Demand fair; trend unchanged; supply adequate; offal meal $1.65 a unit of protein.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gm. in less than ton lots, in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand slow; offerings light; carlots, rice bran $33@34, f.o.b. south Texas rice mills; hulls $6.50, f.o.b. mills.

San Francisco: Demand good; supply ample; bran $45; polished $49.

Los Angeles: Demand slow; trend unchanged; supply adequate; bran, California production, high fat content $51, sacked.

SCREENINGS

Cincinnati: Demand fair; trend steady; supply adequate; ground screenings $34.

Ft. Worth: Demand nil; supply light; ground grain $30@32.

Chicago: Demand improved; trend higher; supply more limited; carlots, ground grain screenings $29.25, Canadian $20.50.

Buffalo: Demand and supply fair; trend higher; ground, sacked $31.50, New York, lake and rail; unground, bulk $25.50, New York.

Minneapolis: Canadian offerings remain limited; demand stronger in U.S.; no domestic screenings available; Canadian $16, nominal, Duluth; Canadian ground $25.50; lights $4@14; mediums $15@24; heavies $25@34.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; supply increasing; most of new crop in south Texas moving to export; carlots, bulk, No. 2 yellow milo $2.17@2.19, delivered Texas common points.

Los Angeles: Demand steady; trend easier; supply ample; milo $2.35 cwt., bulk.

SOYBEAN OIL MEAL

Denver: Demand good; trend firmer; supply fair; $77.14, sacked, Denver.

Chicago: Moderate recoveries were staged in the local soybean oil meal market during the week ending July 15, although in no case were resultant advances more than an even dollar per ton. Offerings remained on a more or less limited basis. The July 1 government estimate covering acreage sown and to be harvested "as beans," as well as the quarterly release on farm stocks of soybeans remaining in first hands from the 1958 crop seemingly had effect on sentiment and helped to bring about the moderate price recovery that materialized. The 35,444,000 bu. of old crop beans still on farms at the end of the third full quarter of the bean crop year was considerably smaller than many in the trade had been anticipating, especially when it is realized that the bean crop now being marketed was 90 million bushels bigger than the year before. And yet, July 1 farm stock total was only 6 million bushels greater than a year back. Inspections of soybeans for export so far this season at 91 million bushels are about 17 million bushels over last year's. And crushings of beans this season (Oct. 1 to May 31) were about 41 million bushels bigger than for the same period the preceding season. When the stocks in all positions are released some ten days hence, the bean meal trade will be showing a great deal of interest in the supply picture on the raw commodity. July soybean meal has shown evidence of inherent strength in spots but on the other hand, bulges have been hard to maintain. Quotations: 44% protein, Decatur basis, carlots: unrestricted $60 and eastern restricted $58; 50% protein, unrestricted $69 and eastern restricted $65.50@66.

Louisville: Demand slow; trend steady; supply light; $70.20.

Kansas City: Demand and supply steady; trend steady; 44% protein for Kansas City shipment $57.50@58, bulk, Decatur; unrestricted $59@60.

Cincinnati: Demand poor; trend steady; supply adequate; $60, bulk, Decatur.

Omaha: Demand fair; trend strong; supply ample; 44% $63.10, bulk, delivered Omaha.

St. Louis: Demand fair; trend higher; supply ample; 44% $68.

Memphis: Demand good; trend steady; supply ample; prime 44% solvent $66, sacked, f.o.b. Memphis.

Philadelphia: Demand and supply fair; trend unsettled; 44% $58.50, bulk, Decatur.

New Orleans: Demand slow; trend steady; supply ample; $68@69.

Boston: Demand slow; supply ample; 44% $57.50, 50% $66, both f.o.b. bulk, Decatur.

Ft. Worth: Demand fair; supply sufficient; carlots, southern origin, 44%: July-August $72.50, 50% protein, July-September $82.50; truck, 44% $73@73.50.

San Francisco: Demand good; supply ample; $84.40.

Portland: Demand slow; supply ample; trend unchanged; $54.50, f.o.b. Decatur.

Ogden: Supply average; $84@89.

Los Angeles: Demand slackened; trend weaker; supply adequate; $89.40, bulk.

Wichita: Demand good; supply ample; 44% $68, 50% $76, f.o.b. Wichita.

Minneapolis: Demand slightly slower but still good; supply good; down 50¢ to $53@53.50, bulk, Decatur, for shipment to Minneapolis.

Seattle: Demand fair; trend firm; supply ample; $87, delivered, carlots.

TANKAGE

Chicago: Demand good; trend steady; supply ample; carlots, 60% protein, in 100-lb. bags $95.

Louisville: Demand dull; trend steady; supply good; 60% $85@90.

Kansas City: Demand slow to moderate; trend steady; supply enlarging; $55@90.

Omaha: Demand good; trend strong; supply tight; $100.

Wichita: Demand good; supply adequate; 60% $92.50, f.o.b. plant.

St. Louis: Demand fair; trend steady; supply ample; $93.

New Orleans: Demand good; trend steady; supply light; $97@99.

Cincinnati: Demand good; trend steady; supply ample; 60% digester $90, Cincinnati.

Ft. Worth: Demand fair; supply light; 60% digester $90, Ft. Worth.

St. Paul: Demand fair; supply ample; down $1 to $89@93.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand excellent; limited offerings for July; 6¼¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55; freight allowed to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

WHEAT GERM MEAL

Buffalo: Demand poor; trend steady to lower; supply adequate; commercial grade $55.50, sacked, f.o.b. Buffalo.

New Orleans: Demand fair; trend steady; supply fair; $66@68.

USDA Cites Cut In Broiler Output

WASHINGTON — Because of the decline in recent weeks in chick placements, late July and August slaughter of broilers will be below 1958, the U.S. Department of Agriculture pointed out this week in surveying the poultry situation.

The reduction in marketings will be greatest in late July and August, when consumer demand for frying chicken usually is at its seasonal peak. This should provide price strength, USDA pointed out.

However, it was noted that while the reduced quantity of broilers that is in prospect will tend to raise prices, the rise at the farm level may be somewhat tempered by a possible shift in retail pricing practices. When broilers are cheap, as they have been for a year, retailers use them frequently for weekend specials at low prices not fully reflecting markups by either the processor or the retailer. If broilers become relatively scarce and more expensive in the next few weeks, it is possible that a reduced number of advertised sales will result in a larger increase in the retail price than in the average farm price, USDA said.

In connection with the smaller production, it was pointed out that the reduction in hatchings of broiler chicks began back in the first part of May. At that time, the average broiler-feed price ratio was 3.3, the lowest mid-month ratio on record up to that time. Egg settings in the past weeks have been around 7 to 9% below 1958.

Grain Firm Purchased

PHOENIX, ARIZ. — Michel Fribourg, president of Continental Grain Co., New York, has announced that his firm has acquired the Advance Seed & Grain Co., Phoenix. He said a major result of entering this new market will be improved service and facilities for the rapidly expanding cattle feeding industry in both Arizona and southern California.

FDA

(Continued from page 4)

certain forms of arsenic, or that dienestrol diacetate are safe until it is demonstrated that such compounds do not have this carcinogenic potential. They would have to have appropriate data to answer this question. Furthermore, if an arsenic compound, after study, is found not to produce cancer itself, we would need to know whether any residues it leaves in edible products of treated animals is the organic or inorganic form.

"It is possible that certain arsenic compounds and dienestrol diacetate may be generally recognized by qualified cancer investigators as safe for their intended use. We do not know that this is true. If it is, the Food Additives Amendment . . . would, of course, not apply to such compounds.

"The only way we can suggest to determine whether the investigators generally recognize the products as safe for their intended use would be to make a proper polling of opinion among such experts. We understand that industry organizations are considering the feasibility of conducting such a scientific poll."

EGG PROGRAM

(Continued from page 1)

program a producer must agree to a minimum flock of 3,000 birds. In addition he must have approved egg storage facilities, and must meet the minimum requirements for feeder space, water space, nesting space, and other equipment deemed necessary for producing eggs.

The producer also must agree to bulk feed. He may use his own bin if he wishes or the Farm Bureau will supply the bin under its bulk bin program.

Following contract signing the Farm Bureau will supply the producer with the agreed number of 16-week-old LSC-55 strain birds. The Farm Bureau spokesman indicates that this strain bird is well adapted to the program because of the large egg sizes it produces. The Farm Bureau also supplies proven Profitmaker Feeds, all medicines needed, and a weekly inspection service. The contract feeding servicemen check on the flock and practices, and make recommendations.

As indicated before, the producer will provide facilities to house the birds, equipment, water, litter, electricity and storage space for the eggs.

Payment to Producer

The Farm Bureau further guarantees to pay the producer 6½¢ per dozen for Pennsylvania Wholesale Fancy Jumbo, Large or Medium eggs. Payment for eggs not meeting these classifications will be 5¢ per dozen.

At the end of the flock year, the Farm Bureau will pay incentives based on feed conversion. One-third of a cent per dozen will be paid to farmers who have used 4.75 lb., or less, of feed per dozen eggs produced. An additional ½¢ will be paid when the conversion is 4.5 lb. or under, and another ½¢ goes to the producers who have a conversion of 4.25 or under.

A layer reserve fund will be established at the end of each calendar year. Any money remaining after all production costs are deducted will go into this fund. During a three year period, this money can be returned to producers who have money in the layer pool, it was indicated.

Mr. Woodward said the first contract in the new program was signed during June, and several producers have signed since then, with the largest producer contracting for 13,000 birds. Mr. Woodward said he expects approximately 30,000 birds to be under the contract plan by the end of 1959.

If the program proves successful, he said, the Farm Bureau believes approximately 75,000 birds will be under contract next year. Under the new system all finance contract plans will come under Mr. Woodward's supervision.

DRUGS

(Continued from page 1)

This has raised questions in regard to changes in grain constituents or levels, for example.

FDA officials point out that many feed manufacturers, in supplementary new drug applications, have stated alternate formulas or ranges of corn, for example. They then can make such changes in their feeds without any problem. If an application calls for alternate formulas where grains or protein sources are substituted, such changes are permissible. In general, it was indicated, minor changes are not affected.

However, if a manufacturer has not stated ranges or alternate formulas, he is "in difficulty," officials said, and may not make changes in his feed mix, for such changes would bring the feed under review. Thus, unless previously provided for in the application, a feed manufacturer could not, say, substitute one carbohydrate for another or change ingredient amounts or make certain label alterations.

While some minor changes, such as in grain source or level, may be made if the alternate formulas or ranges are stated, a feed manufacturer cannot make major changes in feeds affected by the FDA policy statement. For example, protein level could not be changed because that would mean a different product and a major change in labeling, requiring FDA review.

Meanwhile, information reaching this reporter from several sources indicates a growing agreement that four of the arsenicals are certain to be excluded from the apparent coverage of the recent FDA policy statement.

As pointed out elsewhere in this issue of Feedstuffs, the Animal Health Institute, after consultation with FDA officials, has developed a plan to present arsenicals now in use to a group of qualified experts who will be polled on the question of whether organic arsenicals now in use in feeds are generally considered safe under conditions of intended use.

Some persons feel there is some danger in this plan, saying that disagreement on the part of one scientist might dissuade FDA from modification of its policy. This plan is seen by some as requiring unanimity of opinion since some arbitrary officials might stand behind the minority opinion.

In the midst of these various developments, some of the best of the latest news is that as of now, there are no plans to rush into court or to petition Congress to amend the law as it now stands.

AFMA

(Continued from page 6)

Donovan's, Inc., Albert Lea, Minn.; Elam Grain Co., St. Louis, Mo.; Chas. H. Eldred & Co., Bainbridge, N.Y.; The Farr Co., Greeley, Colo.; Feed Ingredients Co., New Orleans, La.; Florida Feed Dealers Assn., Tampa, Fla.; Ford Milling Co., Tyler, Texas; Harris Milling Co., Mt. Pleasant, Mich.; Iowa Soya Co., Redfield, Iowa; Kark Milling Co., Blue Earth, Minn.; Kellogg Mills, Nampa, Idaho; Lacy Feed Co., Waco, Texas; M-G Inc. (feed division), Weimar, Texas; and Dr. McDonald's Vitamized Feed Co., Inc., Ft. Dodge, Iowa.

Mathis (Texas) Grain & Elevator Corp.; Midwest Alfalfa Blenders, Inc., Prairie Village, Kansas; Molasses Feeds (PTY) Ltd., Mobeni, Durban, South Africa; Monarch Feed Mills, Inc., Dexter, Mo.; Murray's Feed Service, Inc., Frankford, Del.; Nash Johnson & Sons Milling Co., Rose Hill, N.C.; National Fisheries Institute, Inc., Washington, D.C.; Nebraska Grain & Feed Dealers Assn., Lincoln, Neb.; Rogers Grain & Feed Co., Ainsworth, Neb.; and Wolf Savitsky & Sons, Inc., Shelton, Conn.

Sheridan (Wyo.) Flouring Mills, Inc.; Stillwater (Okla.) Milling Co.; Stock Feed Mfrs. Assn. of New South Wales, Sidney, N.S.W., Australia; Temco Feed Mills, Inc., Temple, Texas; Tennessee Farmers Co-op, Lavergne, Tenn.; Teslow, Inc., Bozeman, Mont.; Tyler (Texas) Feed & Seed Co.; Western Livestock Mineral Co., Artesia, Cal.; Wisconsin Alumni Research Foundation, Madison, Wis.; Wolfe Grain Co., Inc., Shipshewana, Ind.; and Yoder Feeds, Inc., Kalona, Iowa.

Ed Glennon

Dr. G. K. Davis

Dr. J. L. Carmon

Tom Hodge

GEORGIA CONVENTION SPEAKERS—Pictured here are four of the authorities on various subjects who early this week appeared on the program of the Georgia Feed Assn. convention at Savannah. Their subjects included poultry auctions, linear programming and its application to the feed industry, mineral requirements of feeds and the past, present and future of the industry.

SOUTHEAST

(Continued from page 1)

FEED MANUFACTURERS AND THE BEEF CATTLE FINISHING BUSINESS—There is a ready slaughter market for beef cattle finished in the Southeast. Mr. Denton, Armour buyer, noted, "It has become apparent that there is an acute shortage of slaughter-type cattle in the Southeast. . . . I can't think of any slaughter plant operating anywhere near capacity."

And southeast feedlot operators have an ample supply of feeder cattle, because the region already is an exporter of feeder and replacement cattle. Mr. Denton said improvement in the quality of feeder cattle raised in the Southeast has greatly increased the demand for them.

"There is more than an adequate supply of feeder cattle available in this area," Mr. Denton said. "The cattle producer won't have to look far for his supply of feeders."

Prospective cattle feeders of the Southeast are saying: As long as freight must be paid on feeder cattle shipped to fattening areas, why not pay it on carcasses and meat cuts, instead?

Mr. Gilbreath's part in the panel discussion had to do with management of a commercial feedlot operation.

He advised anyone thinking of going into the cattle finishing business to be prepared first. He advised feeders to: Use native grass, apply adequate fertilizer to grass land, build fences properly, use soundly constructed equipment, build a "hospital" ("You can't operate without one"), dip cattle at least three times a year and ("most important") be sure of an adequate water supply.

When Mr. Gilbreath buys calves at an auction sale, he looks at their eyes and mouth. He checks their front legs and asks himself: Are they straight? Are they heavy boned? He also looks for calves with straight backs and ample hind quarters.

After the calves are bought, they are treated for black leg, wormed, dehorned and castrated. All calves get a shot of penicillin, and all are marked so that their finishing progress can be recorded.

"Watch your new cattle closely in case they get sick," he advised.

Collinsville Milling's calves are pastured on fescue, ladino clover, Dallis grass or common Bermuda grass until they reach 650-700 lb.; then they're put in the finishing lot which provides at least 200 sq. ft. of space per head. Feed troughs are big enough to provide one linear foot per head. The feeding areas are sheltered by converted broiler houses with poured concrete floors. The animals are marketed when they reach a weight of about 1,000 lb.

Mr. Gilbreath's cattle are allowed to eat when they want to. In the fattening stage they are fed a ground ration of 80% grain and concentrate. While on pasture they get a 50% grain ration.

He has a gravity-fed water system, and recommends that a feeder figure on consumption of at least 15 gallons of water per head per day.

"Cleanliness in the feedlot is a must," he said. Mr. Gilbreath converted a half-ton truck into a front end manure loader and he has a spreader that will dispose of six tons of manure in 10 minutes.

He supports large pieces of sheet iron and covers them with molasses to attract and trap flies.

Sawdust is the material he uses for bedding.

When asked what the financial requirements are for a cattle-feeding operation, Mr. Gilbreath answered, "A good bank."

He told how he buys his calves at the sale barn, takes the invoice to his bank and borrows that much money for a year. When he sells a shipment of cattle he pays off his oldest note. Mr. Gilbreath estimated that it takes about $200 of financial backing per head for feeding.

Feeding Program

Dr. Wilkening said Alabama Flour Mills uses a three-stage feeding program in its feedlots. These stages are:

1. When the animal is first placed in the feedlot he receives a "warm up" ration, low in TDN, high in roughage and containing additives such as stilbestrol and antibiotics. They are kept on this feed for 15-28 days.

2. The second-stage ration is increased in energy content and decreased in roughage.

3. In the third stage, energy is again stepped up with an increase in the grain fraction.

Dr. Wilkening said the length of finishing period depends on what the market demand is, which now, he said, is for good and choice grades.

The average feeding runs 90-120 days, he noted.

How much feed will the animals consume? Dr. Wilkening gave this simple rule of thumb as the answer to this question:

"Take 3% of the animal's weight when he goes into the feedlot, and add 6 lb. Multiply this figure by the number of days he is to be fed."

Here are some of the questions asked by members of the association and the answers given by the panelists:

Q: Do Brahmas perform as well in the feedlot as English breeds?

A. Rate of gain and feed conversion are good, but their body conformation is not as favorable. Brahmas appar-

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
May 9	1,240	601	736	873	102	702	1,996	1,649
May 16	1,232	566	855	775	138	782	1,906	1,637
May 23	1,240	533	888	885	94	756	1,672	1,884
May 30	1,267	633	786	759	135	670	1,753	1,832
June 6	1,275	482	844	872	123	733	1,699	1,832
June 13	1,310	590	913	810	100	742	1,755	1,905
June 20	1,228	635	677	831	110	839	1,742	1,869
June 27	1,263	568	735	862	136	799	1,694	1,963
July 4	1,186	620	814	778	99	818	1,722	2,001
July 11	1,222	551	719	854	106	754	1,778	1,894

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
May 9	1,197	633	3,300	320	6,996	205	3,506	2,267
May 16	1,241	737	3,128	336	7,165	196	3,493	2,416
May 23	1,251	585	2,933	337	7,053	211	3,446	2,498
May 30	1,223	723	2,998	365	6,951	188	3,404	2,465
June 6	1,243	575	3,016	351	7,002	178	3,413	2,485
June 13	1,168	658	3,037	338	6,961	223	3,461	2,533
June 20	1,322	533	3,019	339	6,807	231	3,470	2,439
June 27	1,124	529	2,926	357	6,922	206	3,461	2,256
July 4	1,066	521	2,981	327	6,776	225	3,406	2,464
July 11	993	550	2,919	351	6,573	172	3,394	2,370

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1959	1958
May 9	3,527	473	2,196	369	205	1,055	34,148	34,910
May 16	3,479	396	2,080	343	244	1,091	34,238	35,504
May 23	3,428	394	2,097	399	244	995	33,828	36,390
May 30	3,501	423	2,200	371	227	987	33,892	36,532
June 6	3,551	400	2,312	377	268	1,033	34,087	36,562
June 13	3,566	448	2,306	374	276	978	34,359	36,900
June 20	3,398	468	2,299	384	247	1,103	33,990	36,889
June 27	3,231	487	2,367	341	262	1,108	33,597	36,237
July 4	3,580	449	2,250	332	243	1,015	33,473	35,436
July 11	3,525	386	2,301	306	238	1,021	32,977	34,912

ently have a lower energy ration than English breeds.

Q. Do you use tranquilizers?

A. Dr. Wilkening: In research, but not in the feedlot.

Q. Do you have any trouble with bloat?

A. Mr. Gilbreath: On pasture but not in the feedlot. Remedy? "Live with your cattle. . . . Use a garden hose to let 'em down."

Dr. Wilkening: Hardly any trouble with bloat in fattening operation.

Q. What payment basis do you prefer in buying cattle?

A. Mr. Denton: Rather buy cattle at feedlot . . . decide on price there and get it over with. Will buy on rail, too, but prefer not to.

APPLICATION OF LINEAR PROGRAMMING TO THE FEED INDUSTRY—Dr. J. L. Carmon, assistant professor of animal husbandry and head of statistics laboratory, University of Georgia, discussed various applications of an operations research technique known as linear programming to the feed industry. The majority of his talk was devoted to feed formulation, but he also mentioned application of linear programming in determining the most efficient transportation routing and storage of feed and ingredients.

He said feed manufacturers usually alter the ingredients of their formulas only when there are drastic changes in ingredient prices or nutritional requirements. Market fluctuations, he said, are so frequent that nutritionists find it difficult to alter feed blends fast enough to take advantage of these feed price changes so that the manufacturer can produce consistently the least expensive formula.

This is where linear programming comes in. Dr. Carmon said this mathematical technique, already being applied to some degree to the feed industry, enables the manufacturer to maintain a least cost feed formula through rapid calculation. Machines are available which can be used to eliminate complex and usually time-consuming hand calculation.

Dr. Carmon noted that there is no place for linear programming in a feed blending operation if the manufacturer does not allow any changes in formula. He said there is no problem of calculating a least-cost feed formula unless there are alternate choices of ingredients to meet certain nutritional requirements.

For linear programming to be useful, three factors or conditions must be present: An objective, a least-cost feed formula in this case; alternative methods, such as choice of ingredients to supply certain nutritional requirements, and specified ingredient resources and restrictions. (An illustration of the final factor is the hypothetical requirement that the mixture must contain at least 35% protein.)

Dr. Carmon explained that data needed to formulate a problem whose solution is a least-cost feed mix includes: Cost of ingredients; nutritional value of ingredients; nutritional requirements of the formula; managerial restrictions, such as capacity of plant, desire of management to give preference to one ingredient or another, etc., and ingredient restrictions, with consideration for weight, texture, color and the ability of the feed to be packaged or pelleted.

Through linear programming, this data is analyzed to determine the formula that will meet all the specifications of the lowest cost, resulting in a report that specifies the ingredients and the quantity of each required.

Dr. Carmon noted that if prices of all alternative ingredients fluctuate by the same percentage of decrease or increase there would be no advantage in changing the formula. He also explained that the least-cost formula obtained through linear programming may not be the only optimum mixture, but it will be as efficient as any that can be devised.

GEORGIA POULTRY EXCHANGE—Tom Hodge, general manager of the Georgia Poultry Exchange at Gainesville, said the auction which the exchange started March 31 has helped improve the price of poultry in the state by at least 1¢ lb. in the past two or three months of operation. He said prices paid producers for their birds handled through the exchange have averaged above the markets listed by the U.S. Department of Agriculture.

Currently, the Georgia broiler auction, patterned after similar sales operations established by exchanges in the Delmarva region, is being assigned 2-2½ million birds a week, and its immediate goal is about 3 million broilers a week.

Mr. Hodge noted that so far the exchange has sold 67.5% of the total volume of birds consigned by growers to the auction for sale.

Noting that some growers sell only a small share of their total birds through the auction, he urged all growers, whose production is not directly controlled by commitments to processors, to sell all of their birds through the auction so that it would have a maximum influence on pricing.

Mr. Hodge remarked that the auction at Gainesville "is not effective yet, but when it is, the chain stores will not be able to play one area against the other" to bring the price down to the level they want to pay.

When the grower sells his birds independently, he said, he doesn't know what price he will be paid for them until they are slaughtered. Poultry auctions are helping to eliminate this problem, he said.

Other advantages of the auction mentioned by Mr. Hodge are that it gives the grower an incentive to produce a quality product and he knows that his birds are going to be picked up at a certain time.

Mr. Hodge outlined the following steps in the operation of the auction at Gainesville:

- The producer books his birds with the exchange.
- A lot number is assigned to his birds. Information included on the "lot sheet" includes the name of the grower, the number and age of the birds and the location of the birds.
- The birds are inspected by exchange inspectors, who make out quality reports which are made available to prospective buyers two hours before auction time.
- The birds are auctioned by competitive bidding. (The exchange lists 42 "approved" buyers.)
- If any of the birds are not sold, they are rescheduled for sale at a later auction.

Contracts between growers and buyers include these provisions:

1. The buyer has five days to pick up the poultry he has bought before he is assessed a penalty.

2. The seller pays a premium of one eighth of a cent per pound for immediate pickup of his birds by the buyer following sale.

3. A fee of $1 per thousand birds is charged by the exchange for handling birds through the exchange.

4. Condemnation losses after sale are charged to the seller not the processor.

ESSENTIAL MINERALS FOR THE FEED BAG—The dangers of deficient and excess amounts of various minerals in animal feeds were brought to the attention of the Georgia Feed Assn. group by Dr. George K. Davis, professor of animal nutrition, University of Florida.

He said there is little evidence to substantiate any thinking that animals will try to find sources of elements which are deficient in their feed. It is known, Dr. Davis said, that salt and phosphorus are the only minerals which animals seek in response to their appetites.

It's possible, but very difficult to make up an adequate ration without minerals, Dr. Davis commented. "A mineral supplement is usually necessary."

Elements required in high concentrations include: Carbon, hydrogen, oxygen, nitrogen, sulfur, phosphorus, calcium, potassium, sodium, chlorine and magnesium. Other elements, however, are necessary for proper growth, depending on species and growth period of the animal.

Nutritional requirements of various animals are quite similar in respect to cobalt, copper, iron and zinc, Dr. Davis noted.

There is no "real requirement" for iodine in the Southeast, as is the case for other regions of the U.S., he said, because of the absence of goiter. "We have evidence that iodine does little good," he said.

Copper is deficient in the old rice lands of the southeastern corner of Georgia, Dr. Davis reported, but this shortage can be taken care of with copper supplement. "Copper fertilizer is not the answer," he remarked. He explained that plants won't take on enough copper to provide a sufficient source of the mineral.

Dr. Davis showed slides of bone malformations in animals which did not receive sufficient quantities of copper. He said animals need copper for best utilization of phosphorus. Deficient copper can result in bone structure easily fractured.

He warned that animals can be fed too much copper, and noted that "copper sulphate has done so much for cattle in Florida" that some producers have fed the ingredient at excessive and toxic levels, resulting in deaths.

Cobalt, Dr. Davis said, is important because it functions as a part of Vitamin B_{12}.

He advised feeders to make sure there is adequate calcium in their dairy and poultry rations.

THE U.S. FEED INDUSTRY—TODAY AND TOMORROW — Sound management decisions in the feed industry are needed today more than ever before, advised W. E. Glennon, president, American Feed Manufacturers Assn., Chicago.

He said the number, degree and rapidity of changes in the industry prompted one observer to remark, "If you aren't confused over what's happening, you just don't understand it."

Mr. Glennon recognized the Southeast as having seen the largest percentage increase for the U.S. in manufactured feed tonnage over the past 10 years.

Integration, animal production contracting and higher food quality requirements were pointed out by Mr. Glennon as having entered the feed industry picture. "Pork production in the heavy pork areas has held off from contracting, but there are symptoms of it showing up," he said. Mr. Glennon noted that Georgia has become interested in hog production.

"Of all end products, eggs are in the worst shape in so far as per capita consumption is concerned," Mr. Glennon pointed out.

"The feed industry," he said, "has been used as a whipping boy" by inefficient producers.

Mr. Glennon explained that eggs have a very inelastic demand. They are sensitive, therefore, to changes in supply and demand.

What's ahead for the feed industry? Mr. Glennon made these predictions:

- Farm specialization and integration will continue to grow.
- "The day of the large terminal mill is over." Smaller mills are being and will be built to service smaller areas.
- A monopoly will not spring up in the feed industry in the foreseeable future. "Aggressive small and medium size feed plants will continue to be an important part of the over-all picture."
- Use of bulk feeds will increase.
- The trend toward large, specialized feed users will continue.
- Feed dealerships will grow in size, but there will be fewer of them.
- Corporation ownership of various operations within the industry will continue to grow.
- The independence of some operations may be lost, and this trend will increase the activity of cooperatives.
- Labor will step up its efforts to completely organize employees of contracted livestock, poultry and egg production units.

Public services provided by the Georgia Department of Agriculture, such as egg inspection, collection and dissemination of marketing information, and regulation of food quality were described by Clifton A. Ward, chairman of the Georgia Milk Commission and an assistant to Phil Campbell, commissioner of agriculture, who was originally scheduled to appear on the program but was forced to decline the speaking engagement for health reasons.

International Makes 2 Sales Promotions

MINNEAPOLIS — Two promotions in millfeed sales have been announced by International Milling Co. Robert D. Anderson, former division clear and millfeed sales manager at Kansas City, has been promoted to the company's headquarters at Minneapolis as assistant general manager of millfeed sales. Replacing him at Kansas City is James R. Ryan, former Buffalo millfeed sales manager.

Mr. Anderson, a 1952 graduate of Kansas State University, has been with International since 1954 when he was hired as a plant management trainee. In 1955, he was promoted to assistant plant manager at the company's plant in North Kansas City. He became division millfeed sales manager at Kansas City in 1957.

Mr. Ryan is a 1952 graduate of the University of Minnesota. He came with International in 1955 as assistant to the general sales manager of millfeed sales in Minneapolis and was promoted to millfeed salesman in 1957. He moved to Buffalo as millfeed manager in 1958.

$375,000 Suit Filed Against Poultry Firm

NEW HAVEN, CONN.—The Maritime Milling Co., Inc., Buffalo, manufacturer and seller of feed for poultry, has filed civil action against Hall Brothers Hatchery, Inc., Wallingford, for an alleged failure to meet payments on notes due.

Sought by the Maritime Milling Co. is payment and judgment against Hall for $375,000 plus interest and costs. A writ of attachment to the value of $400,000 has also been ordered against the goods or estate of Hall Brothers Hatchery.

MARKETS

(Continued from page 2)

End products slipped a little. Eggs are still above their lows but they have reversed their recent upward trend.

Broilers slumped to a low of 14½¢ a pound in the East. The high was 18¢ and the weighted average return was 16½¢.

The base price of milk during June in the Niagara Frontier milk marketing area was set at $3.86 cwt. This was a drop of 5¢ from May, but an increase of 19¢ from June, 1958. A drop of nearly 3,500,000 lb. to 69,436,637 in the latest month helped to keep the base price up.

Egg mashes scored the biggest sales turnover during the week, followed by growing feeds. But turkey feed demand is climbing as appetites get bigger.

Dairy feeds didn't do much. Pastures are holding up but a week or ten days more hot weather will hurt farmers.

Some ingredients worked higher during the week.

Corn rose 1½@2¢ and oats gained 2¢. Barley has begun to show a little strength and feed wheat and milo held steady.

Animal tallow weakened and was off one fourth cent a pound to 6⅞¢.

Soybean oil meal (44%) advanced 50¢@$1 and 50% soybean meal was unchanged. Linseed oil meal gained 50¢@$1. Cottonseed oil meal and gluten meal held steady.

Brewers' grains were up 50¢@$1. Hominy feed, gluten feed, distillers' grains and alfalfa meal were unchanged.

Bran and middlings advanced. Sales were light but shipping positions were comfortable.

Running time of formula feed manufacturers averaged 32 hours last week, with one plant in Buffalo still shut down by a strike.

Mountain States

Formula feed dealers reported this week that their sales volume has been about the same as the previous week. However, it is up somewhat from a year ago at the same time.

Cattle feeds have been getting the most demand this past week.

Ohio Valley

Sales of formula feeds continued steady this week in the Ohio Valley, with manufacturers reporting no appreciable changes in the situation which has prevailed during the last two weeks. Moving in best tonnages are hog and poultry feeds, with sales of turkey feeds continuing to improve slowly but steadily.

In some Ohio Valley areas, increasingly serious drouth conditions were reported early this week, but predicted heavy rainstorms were expected to relieve the situation for farmers now facing depleted water supplies. While rainfall would benefit the entire area, the underground water table generally is still sufficiently high to preserve pasturage and farm wells, although most fields have now lost the lush appearance that was so evident during May and early June.

Area poultry and egg markets were unsettled and "nervous" during the last week, with egg prices holding steady after sharp advances during recent weeks. There were but minor fluctuations in poultry quotations, with slightly lower prices indicated for some weights.

South Central

Business is rated as fairly good by most feed manufacturers this week. Sales hold at a steady pace, little changed over the last several weeks. Comparing the first half of July deliveries against a year ago, there is general agreement that poultry feed shipments are lower, hog feeds are well ahead, dairy feeds are about holding their own and cattle feeds are doing a little better, with total deliveries for the two periods about equal.

Although manufacturers are concerned over the declining prices for hogs, the present corn-hog ratio is favorable and hogs are making a profit. However, it is generally accepted that even lower prices are due within the next six months and this may result in reduced pig production next spring.

Of more immediate concern is the possibility that continued dryness in the nearby area may cause a reduction in the fall and winter production. According to observers, corn in the surrounding area has been hurt by lack of moisture and even with rain won't produce as it should. Some manufacturers feel that reduced corn prospects combined with sharply lower hog returns may cause hog raisers to take a second look at their fall plans. Fortunately, a good portion of the territory that is served from this area has received normal rainfall and has prospects for bumper crops.

Pacific Northwest

Steady to higher quotations were the rule rather than the exception during this week's Pacific Northwest feed ingredient market trading. Prices the previous period were unchanged to lower.

Only exception to the trend was milo prices which declined as much as $2.50 ton at Portland and Seattle. Wheat millfeeds sold 50¢ stronger while meat and bone meal values advanced $2.50 ton. Whole barley listings were 50¢@$1 ton higher.

Whole corn quotes advanced 25¢ ton and cottonseed meal prices advanced $1 ton, mainly because of increased transportation costs.

Pacific Northwest alfalfa hay prices held steady to firm with a dependable demand generally facing moderate offerings. Good quality alfalfa comparable to U.S. No. 2 or better brought mostly $32@33 ton baled, delivered Portland and Seattle.

Trading in feedstuffs was generally reported by mixers and feeders to be moderate and fairly steady. Supplies of some important ingredients became on the short side, a factor responsible for most of the price advances.

Some trade sources expressed belief that the improved demand for protein feeds following recent declines was mainly behind the market strength reported above.

Poultry feed sales continued at volume levels with higher egg and frying chicken prices.

Producer paying prices on eggs were advanced 1¢ doz. at Seattle and Portland, with AA grade large ones topping the market at 36@38½¢ doz. at Portland.

Fed cattle faced a good demand at North Portland where choice steers closed 50@75¢ cwt. higher at $29.25@29.75.

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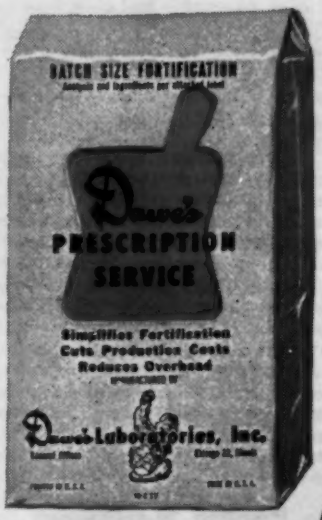

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